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Department of Statistics

gas facts

1988 DATA

■ ENERGY RESERVES ■ NATURAL GAS SUPPLY
■ UNDERGROUND STORAGE
■ DISTRIBUTION AND TRANSMISSION
■ ENERGY CONSUMPTION
■ CUSTOMERS ■ SALES ■ REVENUES
■ PRICES ■ APPLIANCE AND HOUSING DATA
■ FINANCE ■ PERSONNEL DATA

■ GLOSSARY ■ INDEX

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GAS FACTS
1988 DATA

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AMERICAN GAS ASSOCIATION

The American Gas Association assumed its present status as the gas utility industry trade association in 1927, after a merger of two predecessor organizations. It renders assistance to the gas utility industry so that the industry may serve its customers more efficiently. Dependence is placed upon the voluntary cooperation of gas companies and established committees composed of representatives from these companies.

The Association recognizes the need for factual information regarding the gas industry for the use, not only of industry organizations, but also interested outside publics. Its statistical efforts are a vital part of this function, and the publication of Gas Facts is one result of these efforts. The statistical activities of A.G.A. are performed by the Department of Statistics with guidance by the Statistics and Related Economics Committee.

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INTRODUCTION

GENERAL

This publication contains detailed statistics for 1988 and summary statistics for 1970–1987 for the gas utility industry which by definition, consists of the companies engaged in natural gas distribution and transmission. The publication also contains relevant data on the gas producing segment of the industry and key statistics on other energy industries.

Production data of the gas industry, and pertinent other energy industry data, are also included. Gas volumes are expressed in millions of cubic feet (at 14.73 psia and 60°F unless otherwise noted) and in British thermal units (Btu) to permit direct comparison with other energy data. A conversion table is included as Appendix B.

Appendix C contains a sample listing of gas utility companies according to their classification as distribution, transmission, integrated, or in some cases, combination companies. These classifications are defined in the glossary, Appendix A. Appendix D contains consumption data gathered by the Gas Requirements Committee. Throughout the publication totals may not add due to independent rounding.

The user should be aware that there has developed a sizeable transportation market which directly affects gas utility sales quantities, revenues and number of customers. Although total pipeline throughput may remain the same, as transportation volumes to end-users increase, gas utility sales quantities to end-users will decrease.

Data presented in *Gas Facts,* broken down by company type, are not necessarily comparable from year to year. Acquisitions, mergers and corporate reorganizations continue to cause the number of companies in any given category to vary from year to year. Some of these changes are sizeable and can cause a dramatic shift in the data reported for a specific category from year to year.

SOURCES OF INFORMATION

Most of the information contained in this volume is developed from data contained in the Uniform Statistical Report, a detailed information form prepared annually by both electric and gas utility companies. Information is also derived from reports filed with regulatory commissions, from financial publications, and from statistical reports prepared by government and private agencies. For 1988, the gas utility companies participating in the Uniform Statistical Report survey represented 97 percent of total gas utility industry sales. Data for non-reporting companies, whose sales represent the remaining 3 percent, were estimated based on recent historical experience.

Employee accident data were taken from the A.G.A. *Disabling Injury Experience of the Gas Utility Industry* report and the National Safety Council *Accident Facts.* Estimates of proved reserves of natural gas, natural gas liquids and petroleum were taken from the U.S. Department of Energy report *U.S. Crude Oil, Natural Gas and Natural Gas Liquids Reserves,* 1988 annual report. Since this time series only begins in 1977, A.G.A., API and CPA data on natural gas reserves, 1960–1979, are presented. Statistics on underground storage operations were developed by the A.G.A. Committee on Underground Storage. Data for gas spaceheating customers were taken from the A.G.A. *Gas Househeating Survey.* Data on new security issues, as well as related cost and yield data, were derived from various financial publications, supplemented by data provided in the Uniform Statistical Report.

ACKNOWLEDGEMENTS

Our thanks go to those companies participating in the Uniform Statistical Report information gathering effort. Their cooperation and support are the essential elements which have made this publication a primary source of gas utility industry data, and an important industry reference. The cooperation of the public and governmental agencies credited in tables is also greatly appreciated.

Credit also goes to Manager, Statistical Services Ellen Hahn, Project Statisticians Carole Williams-Hopkins and Vanessa Chu, and Supply and Statistics Secretary Jean Twyman. Also contributing to the effort were the A.G.A. Computer Services and Publications/Graphic Services Departments; Bob Kalisch—Director, Gas Supply and Statistics; and Patrick Curley—Associate Director, Statistical Services.

SECTION 1
1988 IN REVIEW

While natural gas supplies continued to exceed demand in 1988, the size of the deliverability surplus declined. Gas well completions in 1988 increased by 4.2 percent over 1987 but impressive gains were reported in the reserve additions which totaled 21.2 Tcf for the lower-48 states. This meant that reserve additions were 130 percent of production in the lower-48 states.

Total U.S. natural gas reserves were numerically dominated by the decision to remove 24.6 Tcf of reserves on the North Slope of Alaska from the statistics. EIA removed the gas from the proved reserves because no transmission system exists to deliver this gas to market.

Distribution and transmission facilities increased in 1988 to 1,167.8 thousand miles of distribution main and pipeline, while storage capacity is just about 7.8 Tcf. Thus the gas utility industry's deliverability capacity continues to be matched to the steadily expanding number of gas customers. Average gas utility customers increased in 1988 to 52,414,300.

Gas utility sales increased 1.4% in 1988 to 10,690.7 trillion Btu. Residential sales increased 1.4%, commercial sales rose 7.0%, while industrial sales declined 8.1% from 1987 levels.

Reported gas utility transportation deliveries to end-users totaled 3,427.0 trillion Btu in 1988. This was the first year transportation volumes were compiled by A.G.A. and there still remains some classification problems in the reported transportation volumes. These difficulties should be solved in the near future.

The average natural gas price remained essentially flat in 1988 compared with 1987. The residential price decreased 1.8%, the commercial price decreased 2.8% and industrial price decreased 0.8%.

TABLE 1-1
COMPARISON OF GAS UTILITY INDUSTRY CUSTOMERS, SALES, REVENUES AND PRICES BY CLASS OF SERVICE, 1988 AND 1987

	1988	1987	Percentage Change
CUSTOMERS—TOTAL[a]	**52,414,300**	**51,575,800**	**+ 1.6**
Residential	48,126,800	47,362,500	+ 1.6
Commercial	4,067,400	3,979,700	+ 2.2
Industrial	168,000	180,000	− 6.7
Other	52,100	53,600	− 2.8
SALES—TOTAL[b]	**10,690,700**	**10,543,400**	**+ 1.4**
Residential	4,691,800	4,385,000	+ 7.0
Commercial	2,303,500	2,155,900	+ 6.8
Industrial	3,535,200	3,847,900	− 8.1
Other	160,200	154,600	+ 3.6
REVENUES—TOTAL[c]	**$46,108,918**	**$45,491,823**	**+ 1.4**
Residential	24,812,206	23,622,262	+ 5.0
Commercial	10,669,667	10,271,485	+ 3.9
Industrial	10,088,872	11,068,424	− 8.9
Other	538,173	529,652	+ 1.6
PRICES—TOTAL[d]	**$4.31**	**$4.31**	**− 0.0**
Residential	5.29	5.39	− 1.8
Commercial	4.63	4.76	− 2.8
Industrial	2.85	2.88	− 0.8
Other	3.86	3.43	− 1.9

a. Yearly averages.
b. Sales quantities in billions of Btu.
c. Revenues in thousands of dollars.
d. Prices in dollars per million Btu.

SECTION 2
ENERGY RESERVES

Prior to 1980, data on reserves of oil, natural gas and gas liquids were taken from *Reserves of Crude Oil, Natural Gas Liquids, and Natural Gas in the United States and Canada,* an annual report published jointly by A.G.A., the American Petroleum Institute (API) and the Canadian Petroleum Association (CPA). The publication of this report was discontinued after the year-end 1979 report was released in June, 1980. Since 1977, however, the Energy Information Administration (EIA) within the Department of Energy has published an annual reserves report. Data listed below and in several of the tables in this section were taken from the EIA series. For years prior to 1980 A.G.A./API/CPA data is also listed for natural gas reserves.

Reserves as of December 31

	1988	% Change 88/87
Natural Gas		
(Billions of cubic feet)		
Total Proved Reserves	168,024	− 10.2
% of Non-Associated, estimated	81.4	
% of Associated-Dissolved, estimated	18.6	
Underground Storage*	5,260	+ 1.9
Total Discoveries	10,350	+ 44.3
Production	16,670	+ 3.5
Natural Gas Liquids		
(Millions of barrels)		
Total Proved Reserves	8,238	+ 1.1
Total Discoveries	381	+ 24.1
Production	754	+ 0.9
Crude Oil		
(Millions of barrels)		
Total Proved Reserves	26,825	− 1.6
Total Discoveries	553	− 20.0
Production	2,811	− 2.2

*Not included in Total Reserves. Data taken from "The Underground Storage of Gas in the United States and Canada."

CHART 1-1

SELECTED GAS INDUSTRY HIGHLIGHTS OF 1988

	1988
Proved Reserves	168.0 Tcf
Customers	52.4 Million
Utility Sales	10.7 Quads
Wellhead Price	$1.71/Mcf
Resale Price	$3.24/MMBtu
End Use Price	$4.31/MMBtu
Miles of Main	1,167,797
Withdrawals from Storage	2.0 Tcf

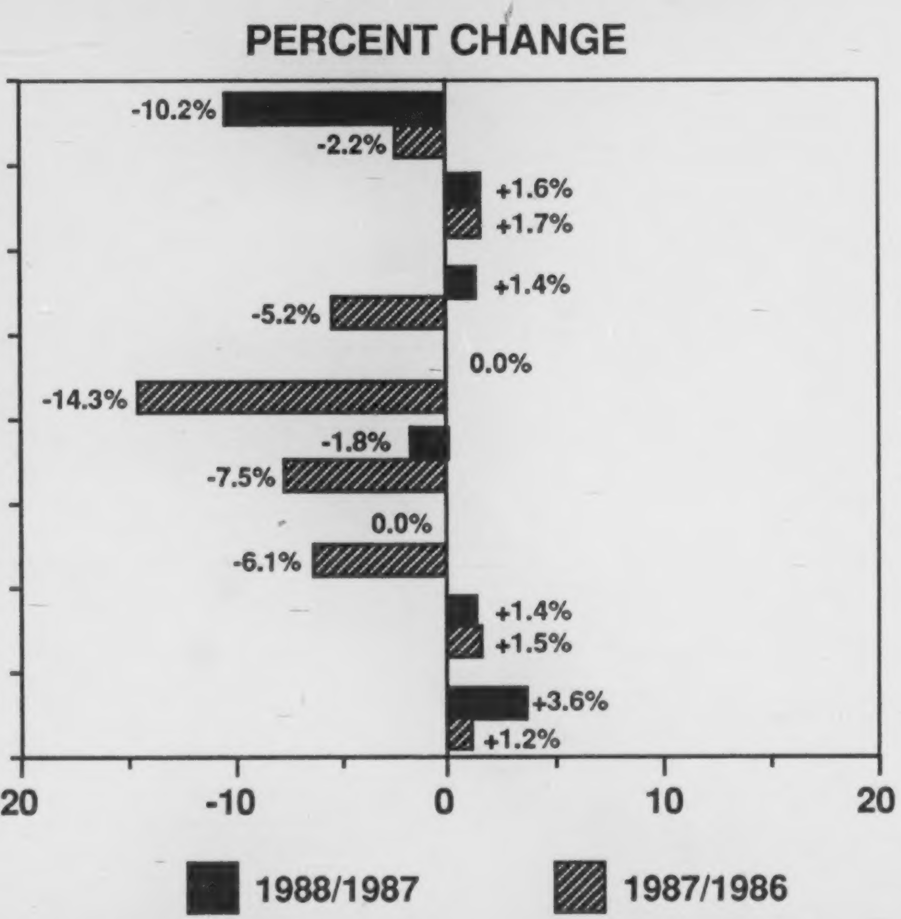


TABLE 2-1

SUMMARY OF ANNUAL ESTIMATES OF PROVED RESERVES OF NATURAL GAS IN THE UNITED STATES, 1960–1979[a]

(Millions of Cubic Feet)

	Changes in Reserves during year									
Year	Extensions	Extensions and Revisions	Revisions	New Field Discoveries	Discoveries of New Fields and New Pools in Old Fields	New Reservoir Discoveries	Total of Discoveries, Revisions and Extensions	Net Change in Underground Storage	Preliminary Net Production during Year[c]	Estimated Proved Reserves as of End of Year	Change over Previous Year
1960	—	7,293,015	—	—	6,600,963	—	13,893,978	281,273	13,019,356	262,326,326	1,155,895
1961	—	10,258,692	—	—	6,907,729	—	17,166,421	159,544	13,378,649	266,273,642	3,947,316
1962	—	13,184,794	—	—	6,299,164	—	19,483,958	159,231	13,637,973	272,278,858	6,005,216
1963	—	12,586,733	—	—	5,577,934	—	18,164,667	253,733	14,546,025	276,151,233	3,872,375
1964	—	13,342,838	—	—	6,909,301	—	20,252,139	195,110	15,347,028	281,251,454	5,100,221
1965	—	14,775,570	—	—	6,543,709	—	21,319,279	150,483	16,252,293	286,468,923	5,217,469
1966	9,224,745	—	4,937,962	2,947,329	—	3,110,396	20,220,432	134,523	17,491,073	289,332,805	2,863,882
1967	9,538,584	—	6,570,578	3,170,520	—	2,524,651	21,804,333	151,403	18,380,838	292,907,703	3,574,898
1968	7,758,821	—	3,016,146	1,376,429	—	1,545,612	13,697,008	118,569	19,373,428	287,349,852	(5,557,851)
1969	5,800,489	—	(1,238,261)	1,769,557	—	2,043,219	8,375,004	107,169	20,723,190	275,108,835	(12,241,017)
1970	6,158,168	—	(99,721)	27,770,223[b]	—	3,367,689	37,196,359	402,018	21,960,804	290,746,408	15,637,573
1971	6,374,706	—	(1,227,400)	1,317,574	—	3,360,541	9,825,421	310,301	22,076,512	278,805,618	(11,940,790)
1972	6,153,683	—	(1,077,791)	1,462,539	—	3,096,132	9,634,563	156,563	22,511,898	266,084,846	(12,720,772)
1973	6,177,286	—	(3,474,756)	2,152,151	—	1,970,368	6,825,049	(354,282)	22,605,406	249,950,207	(16,134,639)
1974	5,847,251	—	(1,333,285)	2,013,745	—	2,151,473	8,679,184	(178,424)	21,318,470	237,132,497	(12,817,410)
1975	6,027,433	—	383,449	2,423,382	—	1,649,424	10,483,688	302,561	19,718,570	228,200,176	(8,932,321)
1976	5,337,707	—	(1,197,119)	1,421,013	—	1,993,867	7,555,468	(187,550)	19,542,020	216,026,074	(12,174,102)
1977	6,601,229	—	983,551	2,114,505	—	2,152,639	11,851,924	446,930	19,447,050	208,877,878	(7,148,196)
1978	6,733,441	—	118,436	1,719,938	—	2,014,329	10,586,144	148,733	19,311,048	200,301,707	(8,576,171)
1979	7,113,113	—	2,907,551	2,575,779	—	1,689,504	14,285,947	239,323	19,910,353	194,916,624	(5,385,083)

a. Volumes are calculated at a pressure base of 14.73 psi, absolute, and at a standard temperature of 60°F.

b. Includes the estimates of proved reserves in the Prudhoe Bay Permo-triassic reservoir discovered in 1968 and not previously included.

c. "Preliminary Net Production" equals estimated gross withdrawals less (1) gas reinjected into producing reservoirs for cycling and pressure maintenance, and (2) natural gas liquids. "Preliminary Net Production" differs from U.S. Bureau of Mines "Marketed Production" in that (1) the sources from which they are derived are different, and (2) "Marketed Production" includes natural gas liquids.

( ): Denotes negative value.

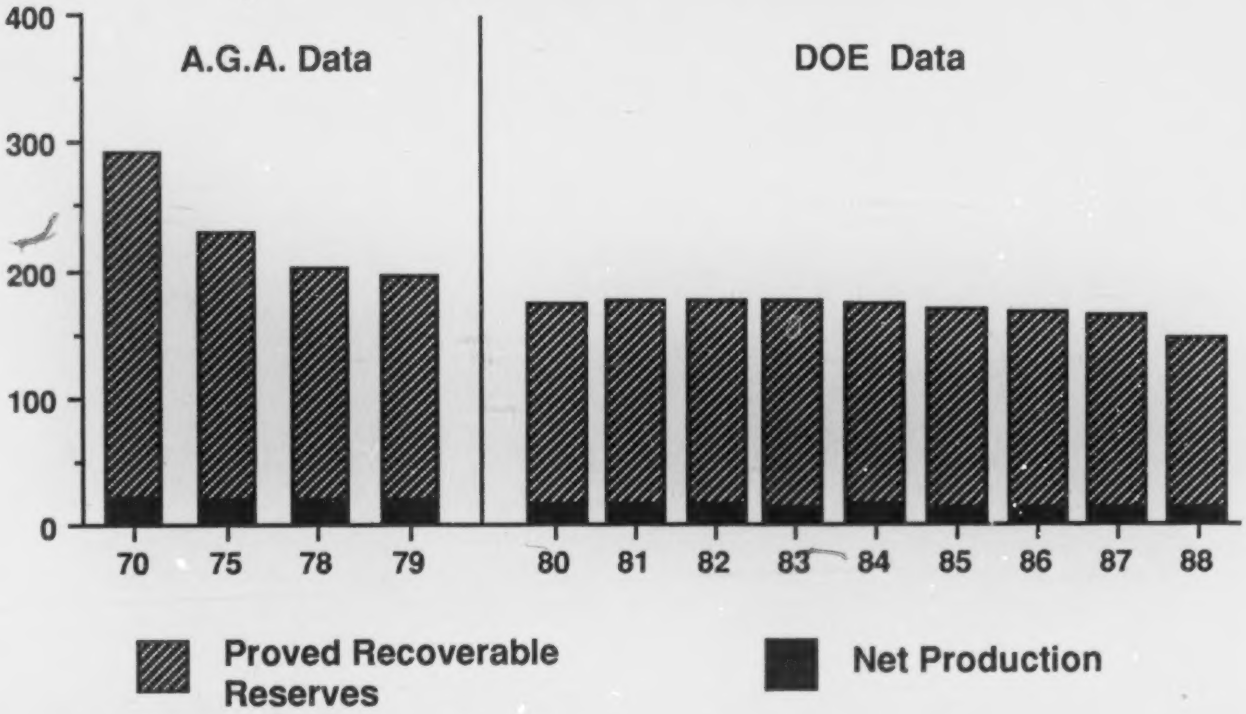
Source: A.G.A., American Petroleum Institute and Canadian Petroleum Association. *Reserves of Crude Oil, Natural Gas in the United States and Canada as of December 31, 1979.*

Note: Publication of the above mentioned source ceased with the December 31, 1979 edition. See Table 2-2 for EIA information covering 1976-1988.

CHART 2-1

PROVED RECOVERABLE RESERVES & NET PRODUCTION OF NATURAL GAS IN THE UNITED STATES

(TRILLIONS OF CUBIC FEET)



REFERENCE: TABLES 2-1, 2-2

TABLE 2-2
SUMMARY OF ANNUAL ESTIMATES OF PROVED RESERVES OF NATURAL GAS IN THE UNITED STATES, 1976–1988

(Billions of Cubic Feet)

	Changes in Reserves During Year									
Year	Net of Corrections and Adjustments (1)	Revision Increases (2)	Revision Decreases (3)	Extensions to Old Reservoirs (4)	New Reservoir Discoveries in Old Fields (5)	New Field Discoveries (6)	Total Discoveries[a] (7)	Production Dry (8)	Proved Reserves[b] 12/31 (9)	Net Change From Prior Year (10)
1976	—	—	—	—	—	—	—	—	213,278[c]	—
1977	(20)[d]	13,691	15,296	8,129	3,301	3,173	14,603	18,843	207,413	(5,865)
1978	2,429	14,969	15,994	9,582	4,579	3,860	18,021	18,805	208,033	620
1979	(2,264)	16,410	16,629	8,950	2,566	3,188	14,704	19,257	200,997	(7,036)
1980	1,201	16,972	15,923	9,357	2,577	2,539	14,473	18,699	199,021	(1,976)
1981	1,627	16,412	13,813	10,491	2,998	3,731	17,220	18,737	201,730	2,709
1982	2,378	19,795	19,340	8,349	3,419	2,687	14,455	17,506	201,512	(218)
1983	3,090	17,602	17,617	6,909	2,965	1,574	11,448	15,788	200,247	(1,265)
1984	(2,241)	17,841	14,712	8,299	2,686	2,536	13,521	17,193	197,463	(2,784)
1985	(1,708)	18,775	16,304	7,169	2,960	999	11,128	15,985	193,369	(4,094)
1986	1,320	21,269	17,697	6,065	1,771	1,099	8,935	15,610	191,586	(1,783)
1987	1,268	17,527	14,231	4,587	1,499	1,089	7,175	16,114	187,211	(4,375)
1988	2,193	23,367	38,427[e]	6,803	1,909	1,638	10,350	16,670	168,024[e]	(19,187)

a. Col. 4 + Col. 5 + Col. 6 = Col. 7.
b. Proved reserves = Prior year Col. 9 + Col. 1 + Col. 2 − Col. 3 + Col. 7 − Col. 8.
c. Based on following year data only.
d. Consists only of reported corrections.
e. An unusually large revision decrease to North Slope dry natural gas reserves was made in 1988.

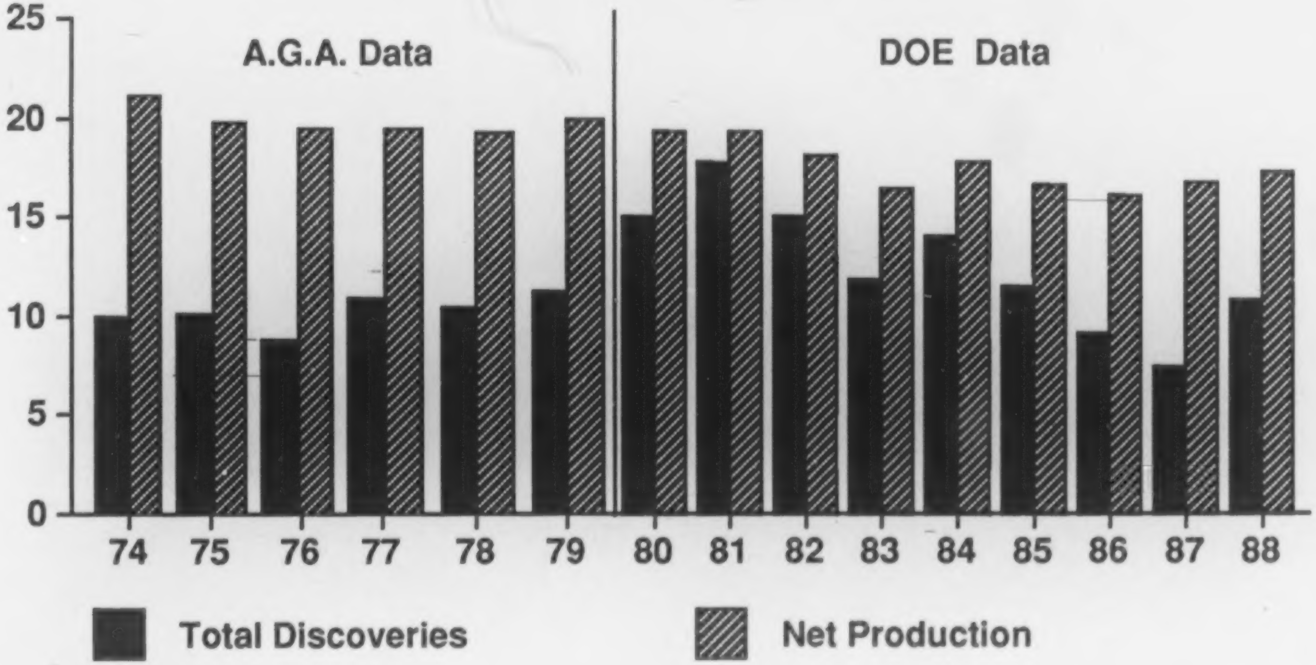
Note: "Old" means discovered in a prior year. "New" means discovered during the report year.

Source: U.S. Department of Energy, Energy Information Administration, *U.S. Crude Oil, Natural Gas, and Natural Gas Liquids Reserves,* 1988 Annual Report.

CHART 2-2

NET PRODUCTION AND TOTAL DISCOVERIES OF GAS RESERVES

(TRILLIONS OF CUBIC FEET)



REFERENCE: TABLES 2-1, 2-2

TABLE 2-3
CHANGES IN ESTIMATED PROVED RESERVES OF NATURAL GAS, IN THE UNITED STATES BY STATE, DURING 1988[a]

(Billions of Cubic Feet)

State and Subdivision	Published Proved Reserves 12/31/87	Changes in Reserves During 1988 Net of Corrections and Adjustments	 Revision Increases	 Revision Decreases
(1) Total United States	**187,211**	**2,193**	**23,367**	**38,427**
(2) Alabama Onshore	842	6	33	28
(3) Alaska	33,225	176	796	24,751
(4) Arkansas	1,997	124	118	232
(5) California	3,740	5	221	167
(6) Coastal Region Onshore	238	(5)	27	23
(7) Los Angeles Basin Onshore	148	(1)	26	8
(8) San Joaquin Basin Onshore	3,102	3	163	123
(9) State Offshore	252	8	5	13
(10) Colorado	2,942	(104)	473	216
(11) Florida	49	(3)	10	0
(12) Kansas	10,494	(125)	329	123
(13) Kentucky	909	16	25	18
(14) Louisiana[b]	12,430	517	1,717	1,555
(15) North	2,306	170	524	434
(16) South Onshore	8,693	359	1,038	817
(17) State Offshore[b]	4,431	(12)	155	304
(18) Michigan	1,451	(124)	239	261
(19) Mississippi	1,220	(1)	130	85
(20) Montana	780	83	48	33
(21) New Mexico	11,620	249	5,421	613
(22) East	2,881	13	567	259
(23) West	8,739	236	4,854	354
(24) New York	410	(31)	6	22
(25) North Dakota	508	6	125	78
(26) Ohio	1,069	302	20	37
(27) Oklahoma	16,711	203	2,538	2,280
(28) Pennsylvania	1,647	488	121	88
(29) Texas	38,711	860	4,397	3,341
(30) District 1	812	22	77	47
(31) District 2 Onshore	2,273	(133)	400	285
(32) District 3 Onshore	3,632	148	369	432
(33) District 4 Onshore	7,490	(84)	924	920
(34) District 5	2,119	23	101	172
(35) District 6	4,682	224	781	375
(36) District 7B	697	87	25	41
(37) District 7C	2,708	191	262	184
(38) District 8	6,999	321	741	405
(39) District 8A	876	(40)	89	30
(40) District 9	834	18	53	49
(41) District 10	4,962	111	510	352
(42) State Offshore	627	(28)	65	49
(43) Utah	1,947	(424)	86	277
(44) Virginia	248	10	6	32
(45) West Virginia	2,242	49	243	95
(46) Wyoming	10,023	(285)	1,410	617
(47) Federal Offshore	31,931	167	4,850	3,467
(48) Miscellaneous[c]	65	29	5	11

a. Volumes are calculated at a pressure base 14.73 psi, absolute, and at a standard temperature of 60°F.
b. Includes offshore Alabama.
c. Includes Arizona, Illinois, Indiana, Maryland, Missouri, Nebraska, Oregon, South Dakota, and Tennessee.
d. Indicates that the estimate is associated with a sampling error (95 percent confidence interval) which exceeds 20 percent of the estimated value.

Note: "Old" means discovered in a prior year. "New" means discovered during the report year.

Source: U.S. Department of Energy, Energy Information Administration, *U.S. Crude Oil, Natural Gas, and Natural Gas Liquids Reserves*, 1988 Annual Report.

TABLE 2-3 (Continued)
CHANGES IN ESTIMATED PROVED RESERVES OF NATURAL GAS, IN THE UNITED STATES BY STATE, DURING 1988

(Billions of Cubic Feet)

Changes in Reserves During 1988					
Extensions	New Field Discoveries	New Reservoir Discoveries In Old Fields	Production	Proved Reserves 12/31/88	
6,803	**1,638**	**1,909**	**16,670**	**168,024**	(1)
15	6	31	96	809	(2)
32	0	0	400	9,078	(3)
110	0	28	159	1,986	(4)
39	10	6	335	3,519	(5)
1	0	0	23	215	(6)
1	0	0	15	151	(7)
7	10	6	286	2,912	(8)
0	0	0	11	241	(9)
626	2	0	188	3,535	(10)
0	0	0	5	51	(11)
60	10	5	546	10,104	(12)
51	0	0	60	923	(13)
461	23	322	1,691	12,224	(14)
132	0	53	353	2,398	(15)
285	23	215	1,142	8,654	(16)
44	0	54	196	1,172	(17)
47	96	1	126	1,323	(18)
31	20	9	181	1,143	(19)
1	0	0	60	819	(20)
1,172	1	47	731	17,166	(21)
89	1	12	359	2,945	(22)
1,083	0	35	372	14,221	(23)
7	0	0	19	351	(24)
51	0	2	73	541	(25)
5	0	2	132	1,229	(26)
1,030	26	163	1,896	16,495	(27)
66	0	0	162[d]	2,072[d]	(28)
1,052	601	477	4,590	38,167	(29)
16	417	37	161	1,173	(30)
45	26	29	318	2,037	(31)
124	39	75	533	3,422	(32)
429	62	217	1,089	7,029	(33)
81	5	1	162	1,996	(34)
56	3	6	416	4,961	(35)
35	0	4	103	704	(36)
53	0	10	259	2,781	(37)
56	2	78	734	7,058	(38)
4	0	0	67	832	(39)
44	0	0	117	783	(40)
89	7	18	515	4,830	(41)
20	40	2	116	561	(42)
3	3	0	40	1,298	(43)
16	0	0	18	230	(44)
37	0	2	172	2,306	(45)
252	9	26	510	10,308	(46)
1,639	831	783	4,470	32,264	(47)
0	0	5	10[d]	83[d]	(48)

TABLE 2-5
CHANGES IN ESTIMATED PROVED RESERVES OF NATURAL GAS LIQUIDS, IN THE UNITED STATES BY STATE, DURING 1988

(Millions of Barrels)[a]

		Changes In Reserves During 1988		
State and Subdivision	Published Proved Reserves 12/31/87	Net of Corrections and Adjustments	Revision Increases	Revision Decreases
(1) Total United States	**8,147**	**11**	**1,168**	**715**
(2) Alabama	166	6	9	3
(3) Alaska	418	1	1	0
(4) Arkansas	16	(3)	1	1
(5) California	130	0	8	5
(6) Coastal Region Onshore	13	0	2	1
(7) Los Angeles Basin Onshore	8	(1)	1	0
(8) San Joaquin Basin Onshore	107	1	5	4
(9) State Offshore	2	0	0	0
(10) Colorado	166	(10)	26	20
(11) Florida	9	5	3	0
(12) Kansas	462	(108)	12	5
(13) Kentucky	23	1	1	0
(14) Louisiana	525	17	75	60
(15) North	50	9	11	9
(16) South Onshore	429	8	58	42
(17) State Offshore	46	0	6	9
(18) Michigan	111	(13)	20	21
(19) Mississippi	11	0	1	1
(20) Montana	16	(5)	1	0
(21) New Mexico	771	(53)	327	42
(22) East	192	14	39	20
(23) West	579	(67)	288	22
(24) North Dakota	67	(17)	10	7
(25) Oklahoma	781	8	132	119
(26) Texas	2,822	(93)	295	216
(27) District 1	27	(5)	1	1
(28) District 2 Onshore	102	(12)	22	12
(29) District 3 Onshore	241	(13)	25	30
(30) District 4 Onshore	277	(2)	36	38
(31) District 5	88	0	4	7
(32) District 6	264	(2)	43	22
(33) District 7B	92	17	3	6
(34) District 7C	243	8	23	19
(35) District 8	640	(71)	57	32
(36) District 8A	307	20	35	12
(37) District 9	115	0	7	6
(38) District 10	417	(31)	39	30
(39) State Offshore	9	(2)	0	1
(40) Utah and Wyoming	924	287	128	138
(41) West Virginia	87	5	10	4
(42) Federal Offshore	638	(18)	108	73
(43) Miscellaneous[b]	4	1	0	0

a. Barrel = 42 U.S. gallons.

b. Includes Arizona, Illinois, Indiana, Maryland, Missouri, Nebraska, New York, Ohio, Oregon, Pennsylvania, South Dakota, Tennessee, and Virginia.

Source: U.S. Department of Energy, Energy Information Administration, *U.S. Crude Oil, Natural Gas, and Natural Gas Liquids Reserves*, 1988 Annual Report.

TABLE 2-5 (Continued)
CHANGES IN ESTIMATED PROVED RESERVES OF NATURAL GAS LIQUIDS, IN THE UNITED STATES BY STATE, DURING 1988

(Millions of Barrels)[a]

Changes in Reserves During 1988					
Extensions	New Field Discoveries	New Reservoir Discoveries in Old Fields	Production	Proved Reserves 12/31/88	
268	**41**	**72**	**754**	**8,238**	**(1)**
1	0	2	15	166	(2)
1	0	0	20	401	(3)
1	0	0	1	13	(4)
1	0	0	11	123	(5)
0	0	0	1	13	(6)
0	0	0	1	7	(7)
1	0	0	9	101	(8)
0	0	0	0	2	(9)
29	0	0	10	181	(10)
0	0	0	1	16	(11)
2	0	0	18	345	(12)
1	0	0	2	24	(13)
16	3	13	72	517	(14)
3	0	1	9	56	(15)
11	3	11	57	421	(16)
2	0	1	6	40	(17)
4	7	0	9	99	(18)
1	1	0	1	12	(19)
0	0	0	1	11	(20)
62	0	4	47	1,023	(21)
7	0	2	26	208	(22)
56	0	2	21	815	(23)
4	0	0	5	52	(24)
45	1	7	90	765	(25)
59	17	26	293	2,617	(26)
0	11	1	4	30	(27)
2	1	3	14	92	(28)
8	3	6	32	208	(29)
16	2	8	39	260	(30)
3	0	0	7	81	(31)
2	0	0	22	263	(32)
6	0	0	14	98	(33)
4	0	1	22	238	(34)
4	0	6	57	547	(35)
2	0	0	26	326	(36)
6	0	0	16	106	(37)
6	0	1	39	363	(38)
0	0	0	1	5	(39)
14	1	1	63	1,154	(40)
1	0	0	7	92	(41)
25	11	19	88	622	(42)
0	0	0	0	5	(43)

TABLE 2-6
TOTAL ESTIMATED REMAINING IDENTIFIED RESERVES OF COAL AND LIGNITE BY STATE, AS OF JANUARY 1, 1988

(Billions of Short Tons)

State	Total Coal and Lignite	Coal			Lignite
		Anthracite and Semianthracite	Subbituminous	Bituminous	
United States	**474.5**	**7.3**	**180.2**	**241.8**	**45.2**
Alabama	5.0	—	—	3.9	1.1
Alaska	6.1	—	5.4	.7	a
Arizona	.3	—	—	.3	—
Arkansas	.4	.1	—	.3	a
Colorado	17.1	a	3.9	8.9	4.2
Georgia	a	—	—	a	—
Idaho	a	—	—	a	—
Illinois	78.5	—	—	78.5	—
Indiana	10.3	—	—	10.3	—
Iowa	2.2	—	—	2.2	—
Kansas	1.0	—	—	1.0	—
Kentucky	30.2	—	—	30.2	—
Louisiana	.5	—	—	—	.5
Maryland	.8	—	—	.8	—
Michigan	.1	—	—	.1	—
Missouri	6.0	—	—	6.0	—
Montana	120.2	—	103.0	1.4	15.8
New Mexico	4.5	a	2.6	2.0	—
North Carolina	a	—	—	a	—
North Dakota	9.7	—	—	—	9.7
Ohio	18.6	—	—	18.6	—
Oklahoma	1.6	—	—	1.6	—
Oregon	a	—	a	—	—
Pennsylvania	29.5	7.1	—	22.4	—
South Dakota	.4	—	—	—	.4
Tennessee	.9	—	—	.9	—
Texas	13.5	—	—	—	13.5
Utah	6.3	—	a	6.3	—
Virginia	2.9	.1	—	2.8	—
Washington	1.4	—	1.1	.3	a
West Virginia	37.9	—	—	37.9	—
Wyoming	68.6	—	64.2	4.4	—

a. Less than 50 million short tons.
Source: U.S. Department of Energy, Energy Information Administration, *Coal Production 1987*.

TABLE 2-8
CHANGES IN ESTIMATED PROVED RESERVES OF CRUDE OIL, IN THE UNITED STATES BY STATE, DURING 1988

(Millions of Barrels)[a]

State and Subdivision	Published Proved Reserves 12/31/87	Changes in Reserves During 1988: Net of Corrections and Adjustments	Changes in Reserves During 1988: Revision Increases	Changes in Reserves During 1988: Revision Decreases
(1) Total United States	**27,256**	**364**	**2,684**	**1,221**
(2) Alabama	55	0	5	3
(3) Alaska	7,378	5	285	3
(4) Arkansas	82	0	16	10
(5) California	4,709	95	566	162
(6) Coastal Region Onshore	625	(6)	56	73
(7) Los Angeles Basin Onshore	361	20	47	12
(8) San Joaquin Basin Onshore	3,208	73	459	53
(9) State Offshore	515	8	4	24
(10) Colorado	272	0	13	7
(11) Florida	61	0	7	1
(12) Illinois	153	9	6	4
(13) Indiana	23	2	1	0
(14) Kansas	357	7	28	17
(15) Kentucky	25	11	3	1
(16) Louisiana	807	25	151	75
(17) North	175	5	9	13
(18) South Onshore	505	13	117	57
(19) State Offshore	127	7	25	5
(20) Michigan	151	(6)	12	9
(21) Mississippi	202	2	25	10
(22) Montana	246	7	20	14
(23) Nebraska	33	9	4	3
(24) New Mexico	654	7	76	33
(25) East	608	13	72	27
(26) West	46	(6)	4	6
(27) North Dakota	215	3	39	27
(28) Ohio	66	8	2	2
(29) Oklahoma	788	24	215	145
(30) Pennsylvania	26	3	2	2
(31) Texas	7,112	135	762	392
(32) District 1	143	(1)	15	3
(33) District 2 Onshore	137	(5)	10	6
(34) District 3 Onshore	386	20	40	[illegible]
(35) District 4 Onshore	80	(9)	11	7
(36) District 5	54	(5)	11	6
(37) District 6	733	15	71	67
(38) District 7B	200	4	39	29
(39) District 7C	220	(3)	39	21
(40) District 8	2,108	58	187	84
(41) District 8A	2,735	39	305	107
(42) District 9	206	20	13	10
(43) District 10	102	1	21	17
(44) State Offshore	8	1	0	1
(45) Utah	284	6	10	23
(46) West Virginia	34	3	3	4
(47) Wyoming	854	20	64	48
(48) Federal Offshore	2,639	(10)	358	225
(49) Miscellaneous[c]	30	(1)	11	1

a. Barrel = 42 U.S. gallons.

b. Indicates that the estimate is associated with a sampling error (95 percent confidence interval) which exceeds 20 percent of the estimated value.

c. Includes Arizona, Missouri, Nevada, New York, South Dakota, Tennessee, and Virginia.

Source: U.S. Department of Energy, Energy Information Administration, *U.S. Crude Oil, Natural Gas, and Natural Gas Liquids Reserves,* 1988 Annual Report.

TABLE 2-8 (Continued)
CHANGES IN ESTIMATED PROVED RESERVES OF CRUDE OIL, IN THE UNITED STATES BY STATE, DURING 1988

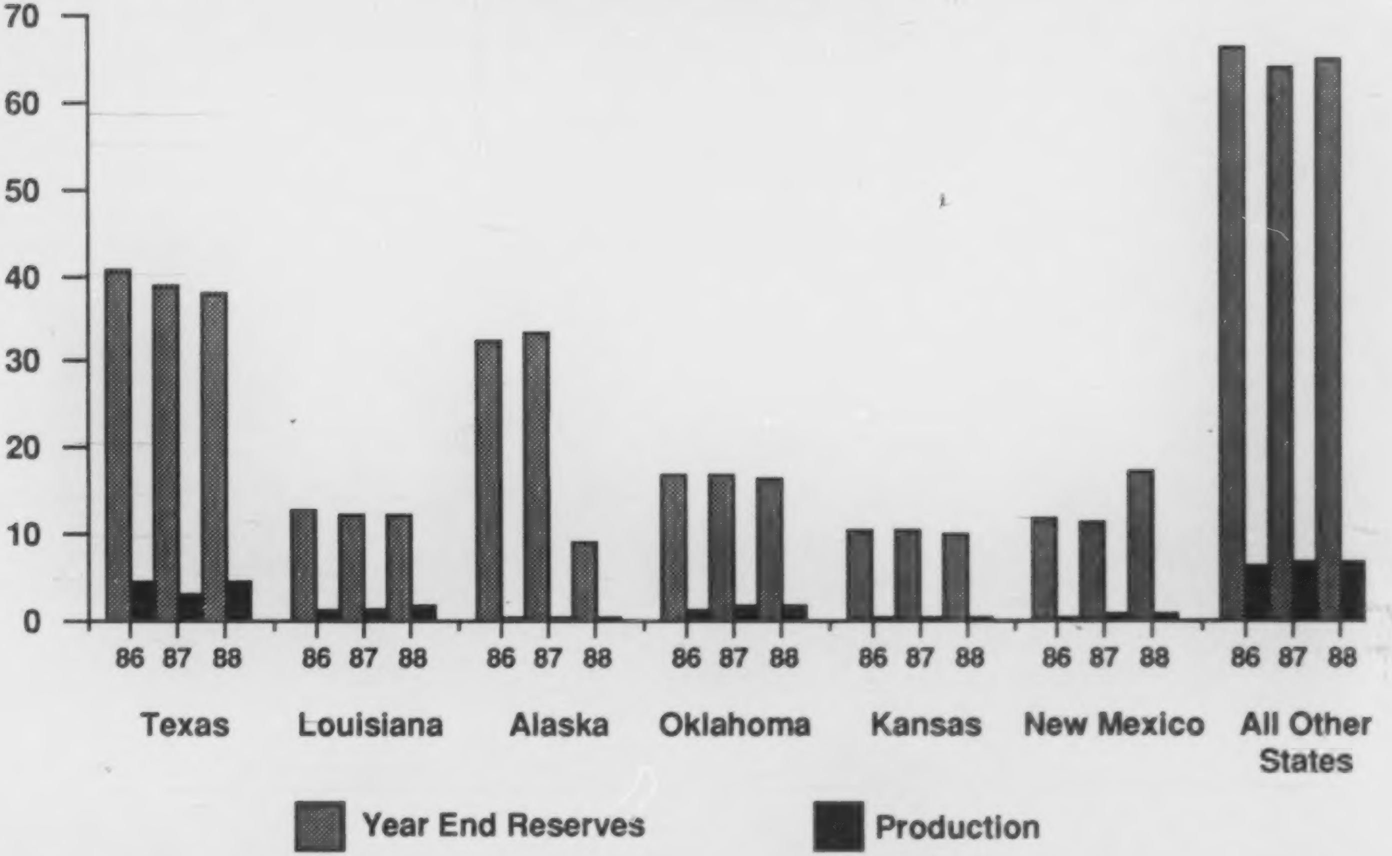
(Millions of Barrels)[a]

Changes in Reserves During 1988					
Extensions	New Field Discoveries	New Reservoir Discoveries in Old Fields	Production	Proved Reserves 12/31/88	
355	**71**	**127**	**2,811**	**26,825**	(1)
2	3	2	10	54	(2)
15	28	0	749	6,959	(3)
1	0	0	12	77	(4)
20	2	1	352	4,879	(5)
2	0	0	28	576	(6)
10	0	0	35	391	(7)
8	2	1	259	3,439	(8)
0	0	0	30	473	(9)
5	1	5	32	257	(10)
0	0	0	8	59	(11)
1	0	0	22[b]	143	(12)
0	0	0	4[b]	22[b]	(13)
3	5	1	57	327	(14)
1	0	0	5[b]	34[b]	(15)
17	0	8	133	800	(16)
1	0	2	25	154	(17)
15	0	4	86	511	(18)
1	0	2	22	135	(19)
1	1	1	19	132	(20)
27	0	1	26	221	(21)
3	0	1	22	241	(22)
5	0	0	6	42	(23)
15	1	5	64	661	(24)
12	1	1	59	621	(25)
3	0	4	5	40	(26)
21	1	1	37	216	(27)
0	0	0	10	64	(28)
32	0	2	120	796	(29)
0	0	0	2[b]	27[b]	(30)
91	10	23	698	7,043	(31)
2	0	0	20	136	(32)
1	0	1	21	117	(33)
7	3	7	71	360	(34)
2	1	3	14	65	(35)
3	0	0	9	48	(36)
2	0	2	71	685	(37)
18	0	0	27	205	(38)
8	0	1	32	212	(39)
27	3	6	198	2,107	(40)
11	3	3	189	2,800	(41)
5	0	0	32	202	(42)
5	0	0	13	99	(43)
0	0	0	1	7	(44)
2	2	0	21	260	(45)
0	0	0	3	33	(46)
18	3	6	102	815	(47)
75	14	70	292	2,629	(48)
0	0	0	5	34	(49)

CHART 2-3

NATURAL GAS STATE RESERVES FOR 1986, 1987 & 1988

(TRILLIONS OF CUBIC FEET)



REFERENCE: TABLE 2-3

TABLE 2-4

SUMMARY OF ANNUAL ESTIMATES OF PROVED RESERVES OF NATURAL GAS LIQUIDS IN THE UNITED STATES, 1978–1988

(Millions of Barrels)[a]

Year	Net of Corrections and Adjustments (1)	Revision Increases (2)	Revision Decreases (3)	Extensions to Old Reservoirs (4)	New Reservoir Discoveries in Old Fields (5)	New Field Discoveries (6)	Total Discoveries[b] (7)	Production (8)	Proved Reserves[c] 12/31 (9)	Net Change From Prior Year (10)
1978	—	—	—	—	—	—	—	—	6,772[d]	—
1979	64[e]	677	726	364	97	94	555	727	6,615	(157)
1980	153	743	639	418	79	90	587	731	6,728	113
1981	231	729	643	542	91	131	764	741	7,068	340
1982	299	811	832	375	109	112	596	721	7,221	153
1983	849	847	781	321	99	70	490	725	7,901	680
1984	(123)	866	724	348	96	55	499	776	7,643	(258)
1985	426	906	744	337	85	44	466	753	7,944	301
1986	367	1,030	807	263	72	34	369	738	8,165	221
1987	231	847	656	213	55	39	307	747	8,147	(18)
1988	11	1,168	715	268	72	41	381	754	8,238	91

a. Barrel = 42 U.S. gallons.
b. Col. 4 + Col. 5 + Col. 6 = Col. 7.
c. Proved Reserves = Prior year Col. 9 + Col. 1 + Col. 2 − Col. 3 + Col. 7 − Col. 8.
d. Based on following year data only.
e. Consists only of reported corrections.
Note: "Old" means discovered in a prior year. "New" means discovered during the report year.
Source: U.S. Department of Energy, Energy Information Administration, *U.S. Crude Oil, Natural Gas and Natural Gas Liquids Reserves,* 1988 Annual Report.

TABLE 2-7
SUMMARY OF ANNUAL ESTIMATES OF PROVED RESERVES OF CRUDE OIL IN THE UNITED STATES, 1976–1988

(Millions of Barrels)[a]

Year	Net of Corrections and Adjustments (1)	Revision Increases (2)	Revision Decreases (3)	Extensions to Old Reservoirs (4)	New Reservoir Discoveries in Old Fields (5)	New Field Discoveries (6)	Total Discoveries[b] (7)	Production (8)	Proved Reserves[c] 12/31 (9)	Net Change From Prior Year (10)
1976	—	—	—	—	—	—	—	—	33,502[d]	—
1977	(40)[e]	1,503	1,117	496	130	168	794	2,862	31,780	(1,722)
1978	366	2,799	1,409	444	116	267	827	3,008	31,355	(425)
1979	337	2,438	2,001	424	104	108	636	2,955	29,810	(1,545)
1980	219	2,883	994	572	147	143	862	2,975	29,805	(5)
1981	138	2,151	880	750	157	254	1,161	2,949	29,426	(379)
1982	(83)	2,245	1,811	634	193	204	1,031	2,950	27,858	(1,568)
1983	462	2,810	1,299	629	190	105	924	3,020	27,735	(123)
1984	159	3,672	1,227	744	158	242	1,144	3,037	28,446	711
1985	429	3,037	1,439	742	169	84	995	3,052	28,416	(30)
1986	57	2,724	1,869	405	81	48	534	2,973	26,889	(1,527)
1987	233	3,687	1,371	484	111	96	691	2,873	27,256	367
1988	364	2,684	1,221	355	127	71	553	2,811	26,825	(431)

a. Barrel = 42 U.S. gallons.
b. Col. 4 + Col. 5 + Col. 6 = Col. 7.
c. Proved Reserves = Prior year Col. 9 + Col. 1 + Col. 2 − Col. 3 + Col. 7 − Col. 8.
d. Based on following year data only.
e. Consists only of reported corrections.
Note: "Old" means discovered in a prior year. "New" means discovered during the report year.
Source: U.S. Department of Energy, Energy Information Administration, *U.S. Crude Oil, Natural Gas, and Natural Gas Liquids Reserves*, 1988 Annual Report.

TABLE 2–10
ESTIMATED ESTABLISHED REMAINING MARKETABLE RESERVES OF NATURAL GAS IN CANADA, BY PROVINCE, 1988[a]

(Millions of Cubic Feet)

Province	Remaining Reserves December 31, 1987	Change During Year	Remaining Reserves At December 31, 1988		
			Total[b]	Net Non-associated	Associated/ Disolved
Canada	**95,576,913**	**(789,310)**	**94,787,606**	**82,810,140**	**11,977,467**
Total West Canada	**94,935,399**	**(801,201)**	**94,134,201**	**82,156,984**	**11,977,218**
Alberta	61,323,405	(1,408,072)	59,915,334	50,039,878	9,875,456
Arctic Islands	14,423,587	—	14,423,587	13,382,556	1,041,031
Br. Columbia	7,465,290	(8,270)	7,457,020	7,098,143	358,878
Mackenzie Delta	9,168,385	774,473	9,942,859	9,332,366	610,492
Mainland Territories	400,085	(2,378)	397,707	389,189	8,518
Saskatchewan	2,154,647	(156,954)	1,997,694	1,914,852	82,843
Total East Canada	**641,514**	**11,890**	**653,405**	**653,156**	**249**
Ontario	637,077	12,849	649,926	649,926	—
Other E. Canada	4,437	(959)	3,479	3,230	249

a. Volumes are calculated at a pressure base of 14.65 psia and at a standard temperature of 60°F.
b. Underground storage not included.
( ): Denotes negative volume.
Source: Same as Table 2–9.

TABLE 2-11
CHANGES IN ESTIMATED ESTABLISHED REMAINING MARKETABLE RESERVES OF NATURAL GAS IN CANADA, BY PROVINCE, DURING 1988[a]

(Millions of Cubic Feet)

Province	Remaining Reserves December 31, 1987	Gross Additions	Net Production[b]	Remaining Reserves December 31, 1988
Canada	**95,576,913**	**2,799,391**	**3,588,702**	**94,787,606**
Total West Canada	**94,935,399**	**2,778,911**	**3,580,112**	**94,134,201**
Alberta	61,323,405	1,732,414	3,140,486	59,915,334
Arctic Islands	14,423,587	—	—	14,423,587
Br. Columbia	7,465,290	285,760	294,030	7,457,020
Mackenzie Delta	9,168,385	774,473	—	9,942,859
Mainland Territories	400,085	1,846	4,224	397,707
Saskatchewan	2,154,647	(15,582)	141,372	1,997,694
Total East Canada	**641,514**	**20,480**	**8,590**	**653,405**
Ontario	637,077	20,906	8,057	649,926
Other E. Canada	4,437	(426)	533	3,479

a. Volumes are calculated at a pressure base of 14.65 psia and at a standard temperature of 60°F.
b. Includes net change in underground storage.
( ): Denotes negative volume.
Source: Same as Table 2-9.

SECTION 3
NATURAL GAS SUPPLY

	1988	% Change 88/87
Maximum Day Sendout (Trillions of Btu)	78.7	+ 7.2
Production (wet) (Trillions of Btu)	19,420	+ 1.9*
Net Imports (Millions of cubic feet)	1,220,174	+30.0
Producing Gas Wells	256,004	+ 0.8*
New Gas Well Completions	5,535	+ 4.8**

*Percentage change based on preliminary data for both years.
**As estimated by the Energy Information Administration at year end.

Beginning in January 1985, the method of reporting oil and gas well completions changed significantly. Because a substantial time lag exists between the date a well is actually completed and the date a report on the well is received by the American Petroleum Institute (API), publishing data on an "as reported" basis does not accurately reflect the timing of completion activity. A new methodology involves reporting completions on the basis of when the completions occurred. However, in some cases, it can take over two years before a well completion is reported to the API and reflected in their published data.

As a result, well completion data may not necessarily be comparable from year to year due to the constant updating to the well completion data provided by the API.

For those tables where both total U.S. and individual state data are published, the individual state data is "as reported" and for recent periods may be subject to significant revision. The total U.S. figures reflect *estimates* by API of the number of completion reports which will ultimately be received.

Please refer to American Gas Association, *Gas Energy Review,* April 1986, Volume 14, Number 4 for further details.

SUPPLY

TABLE 3-1

ANNUAL PRODUCTION OF FOSSIL ENERGY RESOURCES, AND ELECTRICITY FROM HYDROPOWER AND NUCLEAR POWER, IN THE UNITED STATES, 1970-1988[a]

(Trillions of Btu)

Year	Natural Gas Wet (unprocessed)	Crude Petroleum	Bituminous Coal and Lignite	Anthracite Coal	Hydropower[b]	Nuclear[c]	Other[d]	Grand Total Energy
1970	24,154	19,772	14,820	247	2,630	229	e	61,852
1975	22,014	17,729	14,990	f	3,155	1,900	72	59,860
1976	21,807	17,262	15,654	f	2,976	2,111	81	59,891
1977	21,892	17,454	15,755	f	2,333	2,702	82	60,218
1978	21,730	18,434	14,910	f	2,937	3,024	68	61,103
1979	22,362	18,104	17,539	f	2,931	2,776	89	63,801
1980	22,162	18,249	18,597	f	2,900	2,739	114	64,761
1981	22,006	18,146	18,376	f	2,758	3,008	127	64,421
1982[R]	20,446	18,309	18,639	f	3,266	3,131	108	63,898
1983[R]	18,714	18,392	17,246	f	3,527	3,203	133	61,215
1984[R]	20,205	18,848	19,719	f	3,348	3,553	174	65,847
1985[R]	19,147	18,992	19,325	f	2,939	4,149	213	64,765
1986[R]	18,620	18,376	19,510	f	3,017	4,471	231	64,225
1987[R]	19,264	17,675	20,142	f	2,593	4,906	244	64,823
1988[P]	19,420	17,255	20,736	f	2,318	5,678	236	65,644

a. The 1988 unit heat values employed are: Anthracite, 11,554 Btu per pound; bituminous coal and lignite, 10,914 Btu per pound; petroleum approx. 5,800,000 Btu per barrel; natural gas dry 1,031 Btu per cubic foot; natural gas liquids obtained by using 90,786 Btu per gallon.

b. Hydropower output is converted to theoretical energy inputs calculated from national average heat rates for fossil-fueled steam-electric plants.

c. Nuclear power energy input conversion is calculated annually by the Energy Information Administration.

d. Includes geothermal power and electricity produced from wood and waste.

e. Not available.

f. Included in "Bituminous Coal and Lignite."

R–Revised. P–Preliminary.

Source: Prior to 1977 U.S. Bureau of Mines, for 1977 and beyond, data taken from U.S. Department of Energy, Energy Information Administration, *Monthly Energy Review*.

TABLE 3-2

ANNUAL PRODUCTION OF FOSSIL ENERGY RESOURCES, AND ELECTRICITY FROM HYDROPOWER AND NUCLEAR POWER, IN THE UNITED STATES, 1970-1988

(Percentage)

Year	Natural Gas Wet (unprocessed)	Crude Petroleum	Bituminous Coal and Lignite	Anthracite Coal	Hydropower	Nuclear	Other[a]	Grand Total Energy
1970	39.0	32.0	24.0	0.4	4.2	0.4	b	100.0
1975	36.8	29.6	25.0	c	5.3	3.2	.1	100.0
1976	36.4	28.8	26.2	c	5.0	3.5	.1	100.0
1977	36.4	29.0	26.1	c	3.9	4.5	.1	100.0
1978	35.6	30.2	24.4	c	4.8	4.9	.1	100.0
1979	35.0	28.4	27.5	c	4.6	4.4	.1	100.0
1980	34.2	28.2	28.7	c	4.5	4.2	.2	100.0
1981	34.1	28.2	28.5	c	4.3	4.7	.2	100.0
1982	32.0	28.6	29.2	c	5.1	4.9	.2	100.0
1983	30.6	30.1	28.2	c	5.7	5.2	.2	100.0
1984	30.7	28.6	30.0	c	5.0	5.4	.3	100.0
1985	29.6	29.3	29.8	c	4.5	6.4	.3	100.0
1986[R]	29.0	28.6	30.4	c	4.7	7.0	.3	100.0
1987[R]	29.7	27.3	31.1	c	4.0	7.5	.4	100.0
1988[P]	29.6	26.3	31.6	c	3.5	8.6	.4	100.0

a. Includes geothermal power and electricity produced from wood and waste.

b. Not available.

c. Included in "Bituminous Coal and Lignite."

R–Revised. P–Preliminary.

Source: Same as Table 3-1.

TABLE 2-9

SUMMARY OF ANNUAL ESTIMATES OF RESERVES OF NATURAL GAS IN CANADA, 1970–1988[a]

(Millions of Cubic Feet)

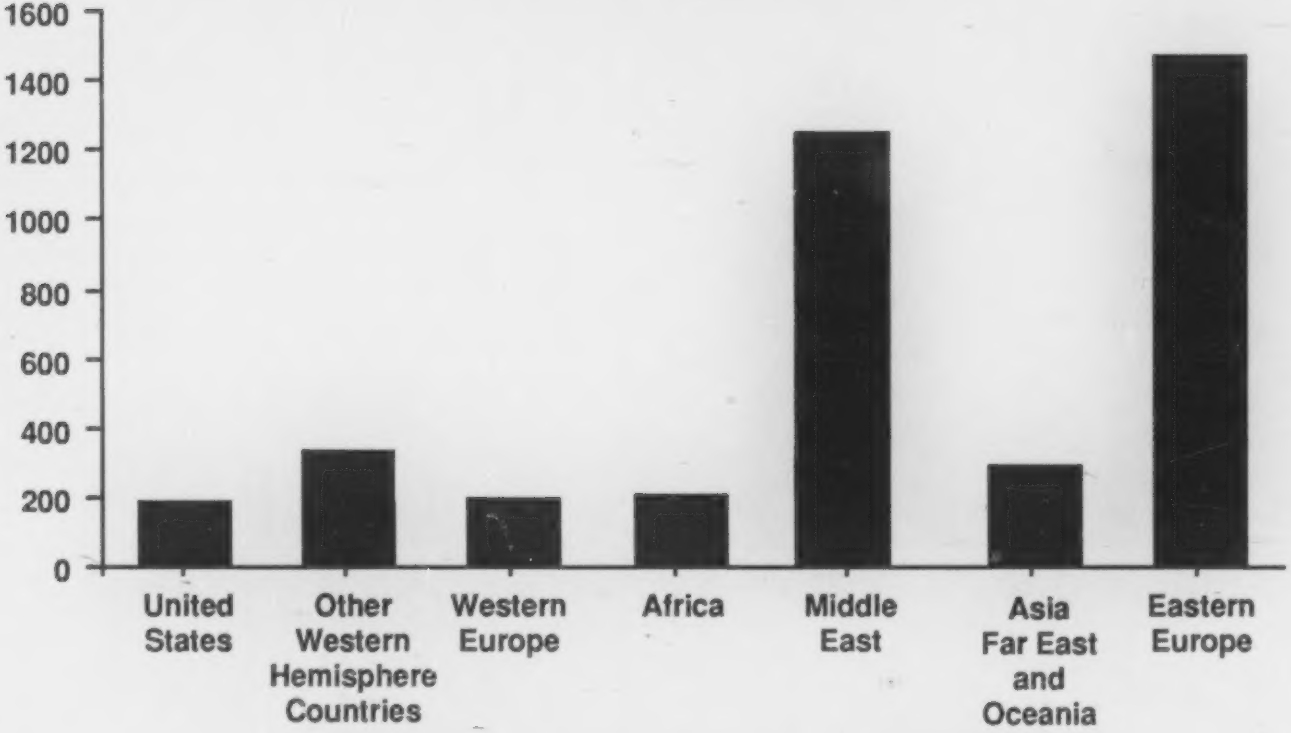
		Changes Due To								
	Reserves Remaining at Beginning of Year	Revisions	Revisions and Extensions	Extensions	Discoveries	Net Change in Underground Storage	Net Production	Reserves Remaining at End of Year	Change During Year	Probable Remaining at End of Year[b]
MARKETABLE GAS[c]										
1970	51,950,995	493,804	—	2,516,126	193,682	20,205	1,799,184	53,375,628	1,424,633	60,289,373
1971	53,375,628	983,556	—	2,280,205	775,500	65	1,953,104	55,461,850	2,086,222	61,964,760
1972	55,461,850	(2,004,125)	—	1,243,897	487,538	(5,580)	2,247,798	52,935,782	(2,526,068)	60,546,769
1973	52,935,782	(167,054)	—	1,257,243	686,714	70,097	2,325,350	52,457,432	(478,350)	60,801,088
1974	52,457,432	2,953,557	—	3,487,099	193,056	10,428	2,393,486	56,708,086	4,250,654	64,459,133
1975	56,708,086	(177,606)	—	2,412,582	362,895	29,869	2,361,110	56,974,716	266,630	71,466,773
1976	56,974,716	(367,880)	—	3,587,990	639,345	(11,053)	2,541,176	58,281,942	1,307,226	76,359,832
1977	58,281,942	1,432,871	—	1,852,325	351,007	46,730	2,492,849	59,472,026	1,190,084	78,031,771
ESTABLISHED RESERVES										
1977	76,835,973	d	—	d	d	46,709	2,492,850	79,180,390	2,344,416	—
1978	79,180,390	2,026,962	—	2,534,342	1,018,734	3,443	2,340,406	82,423,467	3,243,077	—
1979	82,423,467	3,012,475	—	2,062,527	3,347,747	10,613	2,263,030	88,593,799	6,170,332	—
1980	88,594,374	62,043	—	1,408,320	900,050	(33,222)	2,486,016	88,445,549	(148,825)	—
1981	88,461,174	2,234,086	—	2,062,408	624,303	9,372	2,405,800	90,985,543	2,524,369	—
1982	90,985,541	1,750,541	—	1,425,609	214,029	73,450	2,466,895	91,982,275	996,734	—
1983	91,966,031	1,899,412	—	982,360	223,149	(114,502)	2,225,705	92,730,743	764,712	—
1984	92,730,742	d	—	d	d	d	2,804,502[e]	99,687,016	6,956,274	—
1985	99,145,610	d	—	d	d	d	2,909,576	98,275,160	(870,450)	—
1986	98,811,812	d	—	d	d	d	2,731,846	97,448,391	(1,363,421)	—
1987	97,448,391	d	—	d	d	d	2,834,813	95,576,913	(1,871,478)	—
1988	95,576,913	d	—	d	d	d	3,588,700	94,787,604	(789,310)	—

a. Volumes are calculated at a pressure base of 14.65 psia and at a standard temperature of 60°F.
b. Includes proved reserves.
c. For definition refer to Glossary.
d. Not available.
e. Includes net change in underground storage.
( ): Denotes negative volume.
Source: Canadian Petroleum Association.

CHART 2-4

WORLD ESTIMATED NATURAL GAS RESERVES, 1988

(TRILLIONS OF CUBIC FEET)



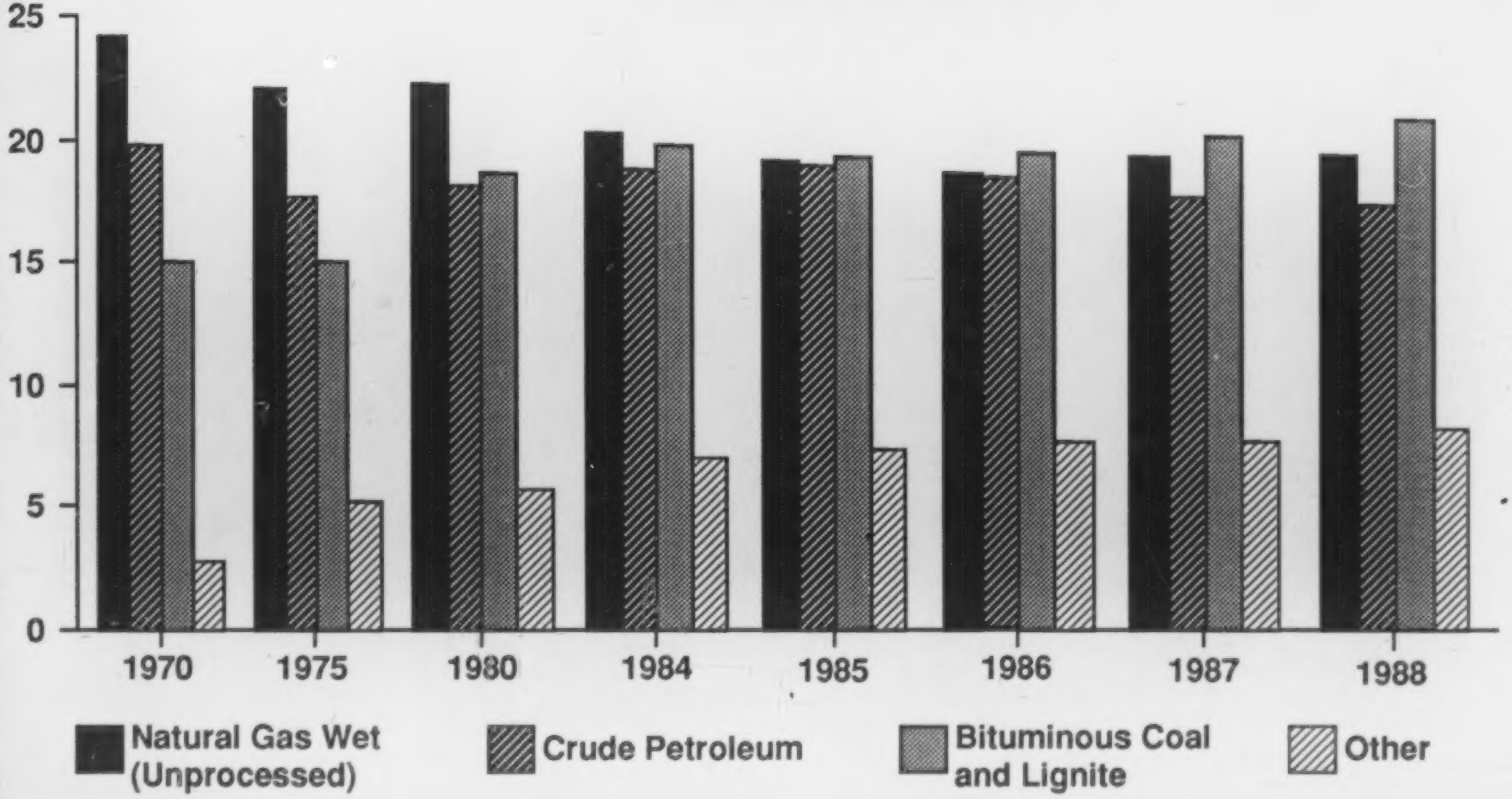
WORLD TOTAL 3934.1 TRILLION CUBIC FEET

SOURCE: WORLD OIL, August 1989

CHART 3-1

UNITED STATES ENERGY PRODUCTION

(QUADRILLIONS OF BTU)



REFERENCE: TABLE 3-1

TABLE 3-3
SUPPLY AND DISPOSITION OF GAS IN THE UNITED STATES, 1966–1987

(Millions of Cubic Feet)

	Gross Production[a]						Disposition of Marketed Production									
Year	Gas Wells	Oil Wells	Total	Repressuring	Vented and Flared	Marketed Production[b]	Extraction Loss	Lease and Plant Fuel	Net Change in Storage	Pipeline Fuel	Unaccounted For	Nonhydrocarbon Gases	Domestic Dry Production For Sale	Net Imports	Supplemental Supplies	Delivered to Consumers[c]
1966	13,893,921	5,139,918	19,033,839	1,451,516	375,695	17,206,628	1,772,708		68,855	535,353	401,203	d	14,428,509	455,141	d	14,883,650
1967	15,346,853	4,904,923	20,251,776	1,590,574	489,877	18,171,325	784,534	1,140,966	184,829	575,752	296,214	d	15,189,030	482,612	d	15,671,642
1968	16,539,925	4,785,075	21,325,000	1,486,092	516,508	19,322,400	827,877	1,237,131	95,539	590,965	325,062	d	16,245,826	558,140	d	16,803,966
1969	17,489,415	5,189,780	22,679,195	1,455,205	525,750	20,698,240	866,560	1,345,648	119,500	630,962	331,587	d	17,403,983	675,647	d	18,079,630
1970	18,594,658	5,191,795	23,786,453	1,376,351	489,460	21,920,642	906,413	1,398,758	398,160	722,166	227,650	d	18,267,495	750,967	d	19,018,462
1971	18,925,136	5,162,895	24,088,031	1,310,458	284,561	22,493,012	883,127	1,413,650	331,768	742,592	338,999	d	18,782,876	854,336	d	19,637,212
1972	19,042,592	4,973,517	24,016,109	1,236,292	248,119	22,531,698	907,993	1,455,563	135,734	766,156	328,002	d	18,938,250	941,483	d	19,879,733
1973	19,371,600	4,695,602	24,067,202	1,171,361	248,292	22,647,549	916,551	1,495,915	441,504	728,177	195,863	d	18,869,539	955,732	d	19,825,271
1974	18,669,212	4,180,581	22,849,793	1,079,890	169,381	21,600,522	887,490	1,477,386	83,663	668,792	288,731	d	18,194,460	882,495	d	19,076,955
1975	17,380,293	3,723,237	21,103,530	860,956	133,913	20,108,661	872,282	1,396,277	344,054	582,963	235,068	d	16,678,020	880,333	d	17,558,353
1976	17,190,655	3,753,123	20,943,778	859,410	131,930	19,952,438	854,086	1,634,355	(165,327)	548,323	216,240	d	16,864,760	899,058	d	17,763,818
1977	17,415,983	3,681,088	21,097,071	934,801	136,807	20,025,463	862,563	1,659,145	556,631	532,669	41,063	d	16,373,392	955,375	d	17,328,767
1978	17,394,213	3,914,602	21,308,815	1,181,432	153,350	19,974,033	852,130	1,647,911	120,237	530,451	287,201	d	16,536,103	913,013	d	17,449,116
1979	18,033,879	3,849,474	21,883,353	1,245,074	167,019	20,471,260	807,845	1,498,530	248,034	600,964	372,330	d	16,943,557	1,197,710	d	18,141,267
1980	17,572,526	4,297,166	21,869,692	1,365,454	125,451	20,378,787	776,605	1,026,438	(23,269)	634,622	639,559	199,063	17,125,769	935,874	154,590	18,216,233
1981	17,336,862	4,250,591	21,587,453	1,311,735	98,017	20,177,701	774,562	927,591	297,430	642,325	500,501	221,878	16,813,414	844,826	175,702	17,833,942
1982	15,802,614	4,407,314	20,209,928	1,388,392	93,365	18,728,171	761,942	1,109,398	308,199	596,411	474,736	208,492	15,268,993	881,441	144,811	16,295,245
1983	14,146,668	4,450,426	18,597,095	1,458,054	94,962	17,044,081	789,632	978,249	(447,299)	490,042	642,061	221,937	14,369,459	865,268	131,894	15,366,621
1984	15,505,073	4,686,746	20,191,820	1,630,152	107,913	18,453,755	837,867	1,076,881	196,835	528,754	142,600	224,118	15,446,700	788,216	109,977	16,344,893
1985	14,528,147	5,006,326	19,534,475	1,915,197	94,778	17,524,500	816,370	966,047	(234,756)	503,766	354,065	326,497	14,792,511	892,256	126,363	15,811,130
1986	14,147,014	4,915,932	19,062,947	1,837,552	97,633	17,127,762	799,645	922,524	146,910	485,041	426,726	336,851	14,010,064	690,478	113,189[e]	14,813,731
1987	14,798,526	5,257,308	20,055,835	2,207,559	123,707	17,724,569	812,320	1,149,383	6,159	519,170	432,893	376,033	14,428,611	938,084	101,382	15,468,385

a. Includes gas (mostly residue gas) blown to the air but does not include direct waste on producing properties, except where data is available.
b. "Marketed Production" equals "Total Gross Production" less "Repressuring" and "Vented and Flared." It includes an allowance for natural gas liquids content in the natural gas and nonhydrocarbon gases.
c. Defined as Domestic Dry Production For Sale plus Net Imports plus Supplemental Gas Supplies. See Table 3-16 for details on Supplemental Gas Supplies.
d. 1980 is the first year this data is available.
e. For detail see Table 3-16.
( ): Denotes negative.
Note: 1988 data reported by U.S. Department of Energy, *Monthly Energy Review*, February 1989 is as follows: "Marketed Production (wet)—17,457,000 million of cubic feet (MMcf); "Net Imports"—1,184,000 MMcf; "Net Change in Underground Storage"—125,000 MMcf.
Source: U.S. Department of Energy, Energy Information Administration, *Natural Gas Annual*, 1987.

SUPPLY

TABLE 3-4
GAS UTILITY INDUSTRY, GAS SUPPLY AND DISPOSITION, 1970–1988[a]

(Trillions of Btu)

	Amount						
	1970	1975	1980	1985	1986	1987[R]	1988
Supply—Produced and Purchased—Total	**18,829.5**	**16,811.5**	**17,276.4**	**14,164.1**	**12,607.8**	**11,923.6**	**11,892.5**
Natural Gas	18,661.8	16,490.1	16,935.3	14,016.1	12,514.0	11,853.5	11,814.8
Manufactured Gas	75.6	19.3	8.8	3.8	3.2	5.3	7.2
Liquefied Petroleum Gas	26.9	24.8	17.9	6.5	6.3	5.2	7.9
Substitute Natural Gas	1.2	261.3	198.4	76.4	43.9	20.1	16.2
Liquefied Natural Gas	0.0	8.4	79.6	24.7	6.4	6.4	8.5
Unclassified	64.0	7.6	36.4	36.6	34.0	33.1	37.9
Disposition—Total	**18,829.5**	**16,811.5**	**17,276.4**	**14,164.1**	**12,607.8**	**11,923.6**	**11,892.5**
Used in Production of Other Gases[b]	125.4	124.2	95.0	66.6	130.7	58.8	76.9
Company Use as a Fuel[c]	1,380.1	1,089.3	1,278.7	1,107.3	855.3	902.3	893.0
Sales to Ultimate Consumers	16,043.5	14,862.9	15,413.2	12,615.2	11,125.1	10,543.4	10,690.7
Other Deliveries (Net)	70.1	83.9	85.8	132.6	17.6	114.1	144.1
Placed in Storage (Net)	473.6	348.8	16.9	(326.2)	170.9	(102.2)	(2.1)
Unaccounted For[d]	736.8	302.4	386.8	568.6	308.2	407.2	89.9

a. Total supply figures involve some double counting. For production of supplementals see Table 3-16.

b. Includes Natural Gas used for enriching, reforming and mixing.

c. Includes interdepartmental transfers.

d. Represents difference between supply and disposition, and should not be interpreted as a reliable measure of transmission efficiency.

R–Revised.

TABLE 3-5
GAS UTILITY INDUSTRY, MAXIMUM AND MINIMUM DAY SENDOUT[a] BY SOURCE OF SUPPLY, 1981–1988[b]

(Trillions of Btu)

	1981	1982	1983	1984	1985	1986	1987[R]	1988
Maximum Day Sendout—Total	**78.8**	**83.6**	**77.4**	**79.7**	**76.8**	**72.8**	**73.4**	**78.7**
Peak Shaving Facilities	2.5	3.4	2.5	1.8	2.8	1.4	0.9	1.9
Underground Storage Withdrawal	37.2	42.4	44.1	38.5	44.2	39.7	37.8	39.4
Regular Production and Purchases	39.1	37.8	30.8	39.4	29.8	31.7	34.7	37.4
Minimum Day Sendout—Total	**16.6**	**13.7**	**13.1**	**13.6**	**12.0**	**14.3**	**14.5**	**15.6**

a. Represents summation of all companies maximum/minimum day sendout, and is non-coincident.

b. Excludes sendout of pipeline companies to avoid duplication. Underground storage withdrawals include amounts from fields operated by both distributors and pipelines.

R–Revised.

TABLE 3-6
GROSS PRODUCTION OF NATURAL GAS, BY STATE, 1970-1987[a]

(Millions of Cubic Feet)

Division and State	1970	1975	1980	1984	1985	1986	1987
United States	**23,786,453**	**21,103,530**	**21,869,692**	**20,191,820**	**19,534,475**	**19,062,947**	**20,055,835**
New England	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Middle Atlantic	**80,472**	**92,400**	**113,089**	**193,942**	**185,568**	**193,573**	**191,796**
New Jersey	0	0	0	0	0	0	0
New York	3,358	7,628	15,650	27,600	35,334	33,684	28,478
Pennsylvania	77,114	84,772	97,439	166,342	150,234	159,889	163,318
East North Central	**97,276**	**191,497**	**305,003**	**338,605**	**321,455**	**317,275**	**321,488**
Illinois	4,972	1,440	1,574	1,530	1,324	1,887	1,371
Indiana	153	346	463	394	367	365	217
Michigan	40,038	103,901	164,110	150,201	137,519	132,951	153,307
Ohio	52,113	85,810	138,856	186,480	182,245	182,072	166,593
Wisconsin	0	0	0	0	0	0	0
West North Central	**965,535**	**877,137**	**791,315**	**550,921**	**604,140**	**541,722**	**535,090**
Iowa	0	0	0	0	0	0	0
Kansas	904,475	846,164	737,246	467,382	514,415	466,897	458,426
Minnesota	0	0	0	0	0	0	0
Missouri	b	30	0	0	4	4	4
Nebraska	6,309	3,963	2,550	2,300	1,944	1,403	1,261
North Dakota	54,751	26,941	50,321	78,752	84,631	70,955	71,737
South Dakota	b	39	1,198	2,483	3,146	2,463	3,662
South Atlantic	**246,599**	**205,683**	**210,852**	**166,585**	**171,567**	**160,644**	**188,696**
Delaware	0	0	0	0	0	0	0
District of Columbia	0	0	0	0	0	0	0
Florida	b	44,383	46,421	13,867	11,604	9,766	9,132
Georgia	0	0	0	0	0	0	0
Maryland	813	93	68	60	39	20	44
North Carolina	0	0	0	0	0	0	0
South Carolina	0	0	0	0	0	0	0
Virginia	2,805	6,723	7,812	8,928	15,041	15,427	19,520
West Virginia	242,981	154,484	156,551	143,730	144,883	135,431	160,000
East South Central	**234,912**	**192,544**	**385,362**	**412,235**	**413,130**	**439,370**	**452,958**
Alabama	b	38,921	111,836	136,427	143,420	145,625	155,143
Kentucky	77,892	60,511	57,180	61,518	73,126	80,195	70,125
Mississippi	157,020	92,500	215,105	209,268	191,898	210,086	224,983
Tennessee	b	612	1,241	5,022	4,686	3,464	2,707
West South Central	**19,469,337**	**17,073,397**	**16,810,823**	**14,748,981**	**13,913,317**	**13,691,753**	**14,064,468**
Arkansas	183,650	121,518	127,696	162,744	181,959	153,165	166,998
Louisiana	8,076,157	7,242,408	7,008,489	5,888,043	5,218,098	4,964,758	5,204,984
Oklahoma	1,811,004	1,720,698	2,018,577	1,985,869	1,936,341	1,917,493	2,004,797
Texas	9,398,526	7,988,773	7,656,061	6,712,325	6,576,919	6,656,337	6,687,689
Mountain	**1,744,236**	**1,849,992**	**1,952,333**	**1,996,753**	**1,981,297**	**1,780,632**	**2,075,183**
Arizona	b	255	357	227	209	185	185
Colorado	115,157	174,145	191,806	180,616	189,565	175,618	186,286
Idaho	0	0	0	0	0	0	0
Montana	48,302	44,547	53,802	52,930	54,151	48,246	47,845
Nevada	0	0	0	0	0	0	0
New Mexico	1,141,889	1,227,200	1,168,049	978,236	926,174	721,217	845,478
Utah	73,386	77,607	87,766	184,606	213,302	238,388	261,911
Wyoming	365,502	326,238	450,553	600,138	597,896	596,978	733,478
Pacific	**945,099**	**620,880**	**1,300,915**	**1,783,798**	**1,944,001**	**1,937,978**	**2,226,156**
Alaska	217,854	253,227	893,759	1,206,370	1,343,553	1,375,054	1,694,870
California	727,245	367,653	407,151	574,638	596,368	558,324	527,486
Hawaii	0	0	0	0	0	0	0
Oregon	0	0	5	2,790	4,080	4,600	3,800
Washington	0	0	0	0	0	0	0
Other States	**2,987**	**0**	**0**	**0**	**0**	**0**	**0**

a. Includes gas (mostly residue gas) blown to the air, but does not include direct waste on producing properties, except where data is available.

b. Included in "Other States."

Source: U.S. Department of Energy, Energy Information Administration, *Natural Gas Annual*, 1987.

TABLE 3-7
NET WELLHEAD PRODUCTION OF NATURAL GAS, BY STATE, 1970-1987[a]

(Millions of Cubic Feet)

Division and State	1970	1975	1980	1984	1985	1986	1987
United States	**22,410,102**	**20,242,574**	**20,504,238**	**18,561,668**	**17,619,278**	**17,225,395**	**17,848,276**
New England	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Middle Atlantic	**80,199**	**92,400**	**113,089**	**193,942**	**185,568**	**193,573**	**191,796**
New Jersey	0	0	0	0	0	0	0
New York	3,358	7,628	15,650	27,600	35,334	33,684	28,478
Pennsylvania	76,841	84,772	97,439	166,342	150,234	159,889	163,318
East North Central	**96,898**	**190,471**	**302,628**	**336,265**	**319,115**	**314,935**	**318,882**
Illinois	4,972	1,440	1,574	1,530	1,324	1,887	1,371
Indiana	153	346	463	394	367	365	217
Michigan	39,660	103,725	161,735	147,861	135,179	130,611	150,701
Ohio	52,113	84,960	138,856	186,480	182,245	182,072	166,593
Wisconsin	0	0	0	0	0	0	0
West North Central	**963,410**	**875,409**	**789,841**	**549,615**	**600,360**	**540,877**	**533,942**
Iowa	0	0	0	0	0	0	0
Kansas	902,668	844,471	735,772	466,447	513,387	466,144	457,509
Minnesota	0	0	0	0	0	0	0
Missouri	b	30	0	4	4	4	4
Nebraska	5,991	3,963	2,550	2,300	1,944	1,403	1,261
North Dakota	54,751	26,941	50,321	78,752	82,273	70,955	71,737
South Dakota	b	5	1,198	2,112	2,752	2,371	3,431
South Atlantic	**246,070**	**205,683**	**210,852**	**166,585**	**171,567**	**160,644**	**188,696**
Delaware	0	0	0	0	0	0	0
District of Columbia	0	0	0	0	0	0	0
Florida	b	44,383	46,421	13,867	11,604	9,766	9,132
Georgia	0	0	0	0	0	0	0
Maryland	813	93	68	60	39	20	44
North Carolina	0	0	0	0	0	0	0
South Carolina	0	0	0	0	0	0	0
Virginia	2,805	6,723	7,812	8,928	15,041	15,427	19,520
West Virginia	242,452	154,484	156,551	143,730	144,883	135,431	160,000
East South Central	**211,156**	**186,251**	**369,219**	**391,890**	**390,809**	**402,219**	**413,017**
Alabama	b	38,921	108,702	123,870	128,651	127,387	137,293
Kentucky	77,892	60,511	57,180	61,518	73,126	80,195	70,125
Mississippi	133,264	86,207	202,096	201,480	184,346	191,173	202,892
Tennessee	b	612	1,241	5,022	4,686	3,464	2,707
West South Central	**18,306,535**	**16,387,930**	**16,273,072**	**14,311,030**	**13,336,432**	**13,262,065**	**13,576,213**
Arkansas	181,577	117,555	112,202	137,385	155,923	132,836	142,219
Louisiana	7,942,365	7,116,104	6,962,775	5,850,063	5,038,715	4,919,567	5,147,799
Oklahoma	1,724,572	1,637,212	1,917,379	1,985,869	1,936,341	1,917,493	2,004,797
Texas	8,458,021	7,517,059	7,280,716	6,337,713	6,205,453	6,292,169	6,281,398
Mountain	**1,705,299**	**1,813,914**	**1,898,955**	**1,830,208**	**1,790,095**	**1,567,806**	**1,819,132**
Arizona	b	255	357	227	209	185	185
Colorado	112,930	174,145	191,610	180,522	188,817	175,133	185,693
Idaho	0	0	0	0	0	0	0
Montana	47,908	43,936	53,572	52,759	53,954	48,060	47,637
Nevada	0	0	0	0	0	0	0
New Mexico	1,141,889	1,219,072	1,154,992	965,716	911,181	706,732	830,013
Utah	45,633	57,160	87,766	77,137	86,145	93,695	88,730
Wyoming	356,939	319,346	410,658	553,847	549,789	544,001	666,874
Pacific	**798,000**	**490,516**	**546,582**	**782,133**	**825,332**	**783,276**	**806,598**
Alaska	146,384	170,671	235,408	300,799	327,642	313,703	375,440
California	651,616	319,845	311,169	478,544	493,610	464,973	427,358
Hawaii	0	0	0	0	0	0	0
Oregon	0	0	5	2,790	4,080	4,600	3,800
Washington	0	0	0	0	0	0	0
Other States	**2,535**	**0**	**0**	**0**	**0**	**0**	**0**

a. As defined by A.G.A. "Net Wellhead Production" equals "Gross Production" less gas for repressuring (see Table 3-3) and therefore includes natural gas liquids.

b. Included in "Other States."

Source: U.S. Department of Energy, Energy Information Administration, *Natural Gas Annual*, 1987.

TABLE 3-8
MARKETED PRODUCTION OF NATURAL GAS, BY STATE, 1970-1987[a]

(Millions of Cubic Feet)

Division and State	1970	1975	1980	1984	1985	1986	1987
United States	**21,920,642**	**20,108,661**	**20,378,787**	**18,453,756**	**17,524,496**	**17,127,761**	**17,724,570**
New England	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Middle Atlantic	**80,199**	**92,304**	**113,082**	**191,542**	**181,795**	**189,853**	**188,994**
New Jersey	0	0	0	0	0	0	0
New York	3,358	7,628	15,643	25,200	31,561	29,964	25,676
Pennsylvania	76,841	84,676	97,439	166,342	150,234	159,889	163,318
East North Central	**95,967**	**188,859**	**299,195**	**332,941**	**315,791**	**311,611**	**315,177**
Illinois	4,850	1,440	1,574	1,530	1,324	1,887	1,371
Indiana	153	346	463	394	367	365	217
Michigan	38,851	102,113	158,302	144,537	131,855	127,287	146,996
Ohio	52,113	84,960	138,856	186,480	182,245	182,072	166,593
Wisconsin	0	0	0	0	0	0	0
West North Central	**940,922**	**871,006**	**781,124**	**546,964**	**596,667**	**533,435**	**530,712**
Iowa	0	0	0	0	0	0	0
Kansas	899,955	843,625	735,035	465,979	512,872	465,695	457,050
Minnesota	0	0	0	0	0	0	0
Missouri	87	30	0	4	4	4	4
Nebraska	5,991	2,565	2,550	2,300	1,944	1,403	1,261
North Dakota	34,889	24,786	42,346	76,734	79,289	64,102	68,966
South Dakota	0	0	1,193	1,947	2,558	2,231	3,431
South Atlantic	**246,070**	**205,683**	**210,175**	**166,524**	**171,553**	**160,590**	**188,370**
Delaware	0	0	0	0	0	0	0
District of Columbia	0	0	0	0	0	0	0
Florida	0	44,383	45,744	13,833	11,590	9,712	9,103
Georgia	0	0	0	0	0	0	0
Maryland	813	93	68	60	39	20	44
North Carolina	0	0	0	0	0	0	0
South Carolina	0	0	0	0	0	0	0
Virginia	2,805	6,723	7,812	8,901	15,041	15,427	19,223
West Virginia	242,452	154,484	156,551	0	144,883	135,431	160,000
East South Central	**204,614**	**172,697**	**349,417**	**380,199**	**385,284**	**396,063**	**407,550**
Alabama	627	37,814	105,527	122,041	127,224	126,077	135,938
Kentucky	77,892	60,511	57,180	61,518	73,126	80,195	70,125
Mississippi	126,031	74,345	185,469	191,618	180,248	186,327	198,780
Tennessee	64	27	1,241	5,022	4,686	3,464	2,707
West South Central	**17,922,286**	**16,298,056**	**16,195,435**	**14,251,542**	**13,279,819**	**13,210,081**	**13,520,529**
Arkansas	181,351	116,237	111,808	135,161	155,099	131,075	141,151
Louisiana	7,788,276	7,090,645	6,939,924	5,825,055	5,013,702	4,895,394	5,122,509
Oklahoma	1,594,943	1,605,410	1,891,824	1,985,869	1,936,341	1,917,493	2,004,797
Texas	8,357,716	7,485,764	7,251,879	6,305,457	6,174,677	6,266,119	6,252,072
Mountain	**1,669,891**	**1,801,478**	**1,889,983**	**1,815,697**	**1,776,751**	**1,554,464**	**1,784,977**
Arizona	1,101	208	214	45	85	63	60
Colorado	105,804	171,629	190,814	179,522	186,996	173,556	183,333
Idaho	0	0	0	0	0	0	0
Montana	42,705	40,734	51,867	51,967	52,494	46,592	46,456
Nevada	0	0	0	0	0	0	0
New Mexico	1,138,980	1,217,430	1,149,781	959,382	905,312	702,652	826,203
Utah	42,781	55,354	87,766	74,698	83,405	90,013	87,158
Wyoming	338,520	316,123	409,541	550,576	548,459	541,588	641,767
Pacific	**760,693**	**478,578**	**540,376**	**768,347**	**816,836**	**771,664**	**788,261**
Alaska	111,576	160,270	230,588	289,129	321,346	304,841	359,837
California	649,117	318,308	309,783	476,428	491,410	462,223	424,624
Hawaii	0	0	0	0	0	0	0
Oregon	0	0	5	2,790	4,080	4,600	3,800
Washington	0	0	0	0	0	0	0
Other States	**0**	**0**	**0**	**0**	**0**	**0**	**0**

a. Includes 199,063 million cubic feet of nonhydrocarbon gases in 1980, 221,937 million cubic feet in 1983, 224,118 million cubic feet in 1984, 326,497 million cubic feet in 1985, 336,851 million cubic feet in 1986 and 376,033 million cubic feet in 1987.

Source: U.S. Department of Energy, Energy Information Administration, *Natural Gas Annual*, 1987.

TABLE 3-9
NATURAL GAS PRODUCTION PURCHASED BY ALL INTERSTATE NATURAL GAS PIPELINE COMPANIES, BY STATE, 1981-1987

(Millions of Cubic Feet)

Division and State	1981	1982	1983	1984	1985	1986	1987
Total United States	**11,959,310**	**10,933,412**	**9,495,902**	**10,421,625**	**8,917,751**	**7,578,336**	**6,655,016**
New England[a]	**0**	**0**	**0**	**0**	**0**	**0**	**15,547**
Middle Atlantic	**70,818**	**80,820**	**74,779**	**82,081**	**109,281**	**89,192**	**88,892**
New Jersey	0	0	0	0	0	0	0
New York	8,606	8,167	9,187	14,368	40,121	31,295	36,757
Pennsylvania	62,212	72,653	65,592	67,713	69,160	57,897	52,135
East North Central	**47,535**	**50,278**	**57,895**	**53,984**	**75,082**	**34,140**	**36,169**
Illinois	195	476	234	217	1,219	5,741	14,498
Indiana	6,162	38	8	0	0	0	0
Michigan	0	0	0	0	0	0	1,716
Ohio	41,178	49,764	57,653	53,767	73,863	28,399	19,955
Wisconsin	0	0	0	0	0	0	0
West North Central	**499,186**	**341,751**	**336,984**	**405,312**	**431,203**	**381,849**	**277,602**
Iowa	0	0	0	0	0	0	35,902
Kansas	472,067	310,949	299,843	379,346	407,636	359,193	223,904
Minnesota	0	0	0	3,335	0	0	0
Missouri	0	0	0	0	0	0	0
Nebraska	3,561	2,944	3,004	3,547	991	770	561
North Dakota	22,390	25,996	32,834	18,267	21,647	21,210	16,734
South Dakota	1,168	1,862	1,303	817	929	676	501
South Atlantic	**175,378**	**162,179**	**139,596**	**161,704**	**209,172**	**195,876**	**209,878**
Delaware	0	0	0	0	0	0	0
District of Columbia	0	0	0	0	0	0	0
Florida	9,659	7,724	6,385	2,915	2,769	1,888	2,189
Georgia	0	0	0	0	0	0	0
Maryland	59	37	31	60	35,616	22	45
North Carolina	0	0	0	0	0	0	0
South Carolina	0	0	0	0	0	0	0
Virginia	8,897	6,905	4,323	8,976	14,251	61,366	85,059
West Virginia	156,763	147,513	128,857	149,753	156,536	132,600	122,585
East South Central	**216,027**	**201,350**	**201,611**	**227,437**	**194,620**	**183,042**	**213,233**
Alabama	40,867	38,953	30,079	33,653	36,101	25,880	27,527
Kentucky	50,042	38,527	32,661	47,238	45,458	43,869	46,404
Mississippi	125,086	123,586	135,058	142,509	108,984	110,227	136,307
Tennessee	32	284	3,813	4,037	4,077	3,066	2,995
West South Central	**9,346,583**	**8,689,062**	**7,413,344**	**8,188,459**	**6,629,637**	**5,769,879**	**4,899,859**
Arkansas	67,143	87,761	79,162	83,534	114,516	138,903	166,885
Louisiana	5,264,477	4,759,426	4,031,576	4,562,678	3,593,587	3,053,072	2,505,273
Oklahoma	1,001,138	1,118,021	888,113	986,368	824,866	691,530	579,382
Texas	3,013,825	2,723,854	2,414,493	2,555,879	2,096,668	1,886,374	1,648,319
Mountain	**1,603,783**	**1,407,972**	**1,272,693**	**1,302,648**	**1,268,756**	**924,358**	**893,105**
Arizona	0	0	0	0	0	0	73
Colorado	158,639	160,839	122,040	116,262	95,180	80,946	69,974
Idaho	524	78	0	0	0	0	0
Montana	33,701	31,842	31,658	24,351	18,021	20,151	15,031
Nevada	0	0	0	0	0	0	0
New Mexico	1,003,163	806,724	713,159	736,216	739,709	483,939	528,437
Utah	63,537	70,855	53,165	52,753	52,925	37,234	29,839
Wyoming	344,219	337,634	352,671	373,066	362,921	302,088	249,751
Pacific[b]	**0**	**0**	**0**	**0**	**0**	**0**	**20,731**

a. Massachusetts

b. California

Source: U.S. Department of Energy, Energy Information Administration, *Gas Supplies of Interstate Natural Gas Pipeline Companies,* 1987.

TABLE 3-11
INTERSTATE MOVEMENTS AND MOVEMENTS ACROSS U.S. BORDERS OF NATURAL AND SUPPLEMENTAL GAS, 1987[a]

(Millions of Cubic Feet)

	Interstate Movements			Movements Across U.S. Borders		
Division and State	Receipts	Deliveries	Net	Receipts[b]	Deliveries[c]	Net
United States	**47,898,699**	**47,898,699**	**0**	**1,312,767**	**374,465**	**938,302**
New England	**667,659**	**284,969**	**382,689**	**5,453**	**0**	**5,453**
Connecticut	234,298	140,079	94,219	0	0	0
Maine	2,758	0	2,758	0	0	0
Massachusetts	265,324	27,826	237,497	0	0	0
New Hampshire	15,440	2,495	12,945	0	0	0
Rhode Island	149,839	114,336	35,503	0	0	0
Vermont	0	233	(233)	5,453	0	5,453
Middle Atlantic	**4,259,155**	**2,618,346**	**1,640,807**	**52,013**	**0**	**52,013**
New Jersey	1,028,386	635,106	393,279	0	0	0
New York	1,126,174	390,995	735,179	52,013	0	52,013
Pennsylvania	2,104,595	1,592,245	512,349	0	0	0
East North Central	**7,168,744**	**4,143,372**	**3,025,371**	**0**	**306,724**	**(306,724)**
Illinois	1,829,079	952,376	876,703	0	0	0
Indiana	1,587,276	1,204,207	383,069	0	0	0
Michigan	941,957	374	941,583	0	306,724	(306,724)
Ohio	2,143,475	1,590,135	553,339	0	0	0
Wisconsin	666,957	396,280	270,677	0	0	0
West North Central	**5,431,342**	**5,262,181**	**169,160**	**454,471**	**6,079**	**448,392**
Iowa	1,079,859	871,808	208,051	0	0	0
Kansas	1,348,168	1,463,576	(115,409)	0	0	0
Minnesota	413,730	630,410	(216,680)	454,471	6,079	448,392
Missouri	1,121,724	884,569	237,155	0	0	0
Nebraska	1,048,843	931,739	117,104	0	0	0
North Dakota	177,986	258,647	(80,661)	0	0	0
South Dakota	241,032	221,432	19,600	0	0	0
South Atlantic	**6,603,853**	**5,454,511**	**1,149,342**	**0**	**0**	**0**
Delaware	38,426	2,531	35,895	0	0	0
District of Columbia	31,907	0	31,907	0	0	0
Florida	308,955	1,165	307,790	0	0	0
Georgia	1,280,796	957,516	323,279	0	0	0
Maryland	840,250	648,022	192,228	0	0	0
North Carolina	839,769	689,638	150,131	0	0	0
South Carolina	952,856	839,769	113,087	0	0	0
Virginia	963,316	846,246	117,070	0	0	0
West Virginia	1,347,578	1,469,624	(122,045)	0	0	0
East South Central	**13,657,962**	**13,157,547**	**500,415**	**0**	**0**	**0**
Alabama	2,537,793	2,423,579	114,214	0	0	0
Kentucky	3,014,749	2,822,957	191,792	0	0	0
Mississippi	4,907,867	4,891,035	16,832	0	0	0
Tenneessee	3,197,553	3,019,976	177,577	0	0	0
West South Central	**4,610,949**	**11,826,346**	**(7,215,397)**	**0**	**368**	**(368)**
Arkansas	2,060,704	2,007,028	53,676	0	0	0
Louisiana	1,502,000	5,036,474	(3,534,474)	0	0	0
Oklahoma	477,426	1,853,323	(1,375,897)	0	0	0
Texas	570,819	2,929,521	(2,358,702)	0	368	(368)
Mountain	**2,979,485**	**4,262,047**	**(1,282,560)**	**661,809**	**12,695**	**649,114**
Arizona	1,320,262	1,204,302	115,960	0	1,757	(1,757)
Colorado	437,073	381,721	55,353	0	0	0
Idaho	52,138	499,704	(447,566)	483,547	0	483,547
Montana	42,435	196,665	(154,230)	178,262	10,938	167,324
Nevada	43,709	2,350	41,359	0	0	0
New Mexico	850,344	1,407,542	(557,197)	0	0	0
Utah	131,513	76,388	55,125	0	0	0
Wyoming	102,011	493,375	(391,364)	0	0	0
Pacific	**2,519,553**	**889,380**	**1,630,173**	**139,021**	**48,599**	**90,422**
Alaska	0	0	0	0	48,599	(48,599)
California	1,553,144	0	1,553,144	0	0	0
Hawaii	0	0	0	0	0	0
Oregon	485,741	403,639	82,102	0	0	0
Washington	480,668	485,741	(5,073)	139,021	0	139,021

a. Supplemental Gas Supplies totaled 101,382 million cubic feet. See Table 3-16.
b. For detail by country see Table 3-13.
c. For detail by country see Table 3-12.
Source: U.S. Department of Energy, Energy Information Administration, *Natural Gas Annual*, 1987.

TABLE 3-12
EXPORTS OF NATURAL GAS FROM THE UNITED STATES, 1966–1988

(Millions of Cubic Feet)

Year	Total	Canada	Mexico	Japan[a]
1966	24,639	20,281	4,358	0
1967	81,614	70,456	11,158	0
1968	93,745	81,647	12,098	0
1969	51,304	34,931	13,391	2,982
1970	69,831	10,878	14,678	44,257
1971	80,212	14,349	15,632	50,231
1972	78,014	15,553	14,579	47,882
1973	77,169	14,824	13,999	48,346
1974	76,789	13,263	13,268	50,258
1975	72,675	10,219	9,454	53,002
1976	64,710	7,506	7,425	49,779
1977	55,626	31	3,940	51,655
1978	52,533	66	4,033	48,434
1979	55,673	76	4,308	51,289
1980	48,731	113	3,886	44,732
1981	59,372	106	3,337	55,929
1982	51,728	162	1,705	49,861
1983	54,639	136	1,646	52,857
1984	54,753	127	1,786	52,840
1985	55,268	178	2,207	52,883
1986	61,271	9,203	1,896	50,172
1987	54,020	3,297	2,125	48,599
1988	73,638	19,738	2,327	51,573

a. LNG exports from Alaska.
Source: U.S. Department of Energy, Energy Information Administration, *Natural Gas Monthly.*

TABLE 3-13
IMPORTS OF NATURAL GAS TO THE UNITED STATES, 1966–1988

(Millions of Cubic Feet)

Year	Total	Canada	Mexico	Algeria[a]
1966	479,780	430,189	49,591	0
1967	564,226	513,255	50,971	0
1968	651,885	604,462	47,423	0
1969	726,951	680,106	46,845	0
1970	820,780	778,687	41,336	757
1971	934,548	912,426	20,689	1,433
1972	1,019,496	1,009,323	8,140	2,032
1973	1,032,901	1,027,883	1,632	3,388
1974	959,284	959,063	222	0
1975	953,008	948,115	0	4,893
1976	963,768	953,613	0	10,155
1977	1,011,002	997,295	2,384	11,324
1978	965,545	881,123	0	84,422
1979	1,253,383	1,000,775	0	252,608
1980	984,767	796,507	102,410	85,850
1981	903,949	762,113	105,013	36,824
1982	933,336	783,407	94,794	55,136
1983	918,407	711,923	75,361	131,124
1984	843,060	755,368	51,502	36,191
1985	949,715	926,056	0	23,659
1986	750,449	748,780	0	1,669
1987 R	992,532	992,532	0	0
1988	1,293,812	1,276,322	0	17,490

a. Quantities represent total LNG imports from overseas into the U.S.
R – Revised.
Source: U.S. Department of Energy, Energy Information Administration, *Natural Gas Monthly.*

TABLE 3-14
NATURAL GAS DELIVERED TO CONSUMERS BY STATE, 1970-1987[a]

(Millions of Cubic Feet)

Division and State	1970	1975	1980	1984	1985	1986	1987[b]
United States	**19,018,462**	**17,558,353**	**18,216,233**	**16,344,893**	**15,811,130**	**14,813,731**	**15,468,385**
New England	**242,507**	**254,070**	**297,506**	**337,857**	**343,158**	**307,009**	**372,194**
Connecticut	60,524	63,968	72,512	80,924	77,864	78,264	90,867
Maine	10,691[c]	13,534[c]	2,166	2,444	2,520	2,465	2,629
Massachusetts	146,226	153,461	181,912	207,564	217,503	184,727	225,701
New Hampshire	d	d	9,448	10,506	10,545	10,269	11,951
Rhode Island	25,066	23,107	27,477	31,557	29,733	26,270	35,865
Vermont	d	d	3,991	4,862	4,993	5,014	5,181
Middle Atlantic	**1,772,600**	**1,451,698**	**1,818,067**	**1,837,082**	**1,723,100**	**1,647,322**	**1,751,952**
New Jersey	321,910	243,714	339,358	415,852	376,982	350,632	418,018
New York	707,219	573,699	733,800	784,243	758,031	724,481	749,004
Pennsylvania	743,471	634,285	744,909	636,987	588,087	572,209	584,930
East North Central	**3,843,966**	**3,718,831**	**3,628,619**	**3,231,263**	**3,090,195**	**2,928,230**	**2,880,161**
Illinois	1,145,379	1,080,787	1,074,771	1,017,180	946,614	911,974	863,261
Indiana	534,214	467,736	480,346	446,210	428,124	389,312	406,661
Michigan	795,317	865,539	846,278	698,672	690,493	648,981	635,568
Ohio	1,037,801	944,925	883,613	767,095	719,393	702,851	697,895
Wisconsin	331,255	359,844	343,611	302,106	305,571	275,112	276,776
West North Central	**1,826,005**	**1,686,051**	**1,455,928**	**1,199,852**	**1,165,391**	**1,061,556**	**1,036,196**
Iowa	330,363	329,703	256,900	224,314	215,553	199,660	192,728
Kansas	481,483	402,273	411,494	287,328	274,900	241,346	250,528
Minnesota	334,872	327,315	276,717	249,040	251,243	237,361	225,292
Missouri	416,783	362,130	312,872	259,904	255,636	238,144	229,960
Nebraska	207,550	207,371	152,283	129,745	120,496	100,762	98,179
North Dakota	18,645	24,757	21,660	25,109	22,682	21,189	18,672
South Dakota	36,309	32,502	24,002	24,412	24,881	23,114	20,837
South Atlantic	**1,465,035**	**1,268,171**	**1,390,415**	**1,303,188**	**1,221,828**	**1,217,169**	**1,295,220**
Delaware	26,421	18,603	29,797	42,957	38,488	33,005	36,699
District of Columbia	e	e	27,868	29,054	28,526	29,229	30,728
Florida	332,223	271,471	304,638	291,128	278,666	278,439	288,317
Georgia	325,650	322,383	307,827	301,331	276,446	273,799	297,249
Maryland	179,784[f]	163,462[f]	156,300	156,868	148,589	150,477	166,428
North Carolina	145,076	111,276	147,448	138,228	129,081	130,787	143,500
South Carolina	156,559	120,308	139,214	105,842	95,225	96,175	103,273
Virginia	128,492	118,083	149,980	136,757	134,589	135,725	135,079
West Virginia	170,830	142,585	127,343	101,023	92,218	89,533	93,947
East South Central	**1,009,983**	**809,664**	**856,158**	**798,830**	**727,003**	**682,301**	**689,645**
Alabama	278,414	245,287	242,793	213,516	202,901	187,654	189,112
Kentucky	209,991	182,781	180,368	162,985	149,102	140,704	147,258
Mississippi	293,154	183,807	219,828	228,840	195,058	179,610	168,075
Tennessee	228,424	197,789	213,169	193,489	179,942	174,333	185,200
West South Central	**5,545,215**	**5,332,025**	**5,873,159**	**4,967,311**	**4,720,819**	**4,583,676**	**4,635,510**
Arkansas	359,338	241,803	260,319	193,694	174,991	184,148	151,856
Louisiana	1,482,275	1,425,686	1,523,691	1,241,850	1,086,006	1,149,230	1,147,961
Oklahoma	475,974	565,387	639,642	533,712	473,906	448,808	467,942
Texas	3,227,628	3,099,149	3,449,507	2,998,055	2,985,916	2,801,490	2,867,751
Mountain	**1,020,744**	**982,840**	**842,444**	**693,082**	**657,276**	**576,447**	**585,189**
Arizona	168,994	139,130	144,511	107,434	112,228	88,587	92,305
Colorado	277,739	294,760	241,765	211,752	200,976	181,770	189,263
Idaho	42,367	56,182	44,835	34,977	36,243	32,110	33,583
Montana	81,992	75,441	54,460	42,914	42,879	37,272	34,687
Nevada	52,558	61,251	58,284	42,173	39,087	33,746	41,161
New Mexico	191,818	172,638	146,579	101,869	78,453	72,830	79,406
Utah	120,814	116,620	106,647	106,188	104,915	90,784	80,494
Wyoming	84,462	66,818	45,363	45,775	42,495	39,348	34,290
Pacific	**2,292,407**	**2,055,003**	**2,053,937**	**1,976,425**	**2,162,360**	**1,810,021**	**2,222,314**
Alaska	41,672	66,815	122,966	140,535	143,470	127,812	130,478
California	2,017,393	1,727,729	1,729,650	1,633,122	1,806,398	1,496,008	1,889,118
Hawaii	0	0	3,131	2,375	2,483	2,463	2,610
Oregon	89,776	101,980	73,083	75,958	78,297	67,349	72,143
Washington	143,566	158,479	125,107	124,435	131,712	116,389	127,965

a. Includes deliveries made directly to end users in addition to gas utility sales as shown in Table 6-7.
b. Includes 101,382 million cubic feet (MMcf) of Supplemental Gas Supplies, less 376,033 MMcf of Nonhydrocarbon Gases.
c. Includes New Hampshire and Vermont.
d. Included in Maine.
e. Included in Maryland.
f. Includes District of Columbia.

Source: U.S. Department of Energy, Energy Information Administration, *Natural Gas Annual*, 1987.

TABLE 3-15
TRANSPORTATION VOLUMES DELIVERED TO END USERS, 1984-1987[a]

(MMCF)

	1984		1985		1986		1987	
Division and State	Industrial	Electric Generation	Industrial	Electric Generation	Industrial	Electric Generation	Industrial	Electric Generation
United States	**1,559,503**	**910,852**	**1,839,611**	**715,121**	**2,240,381**	**720,902**	**3,070,103**	**917,322**
New England	**0**	**0**	**0**	**0**	**28**	**11**	**3,010**	**1,676**
Connecticut	0	0	0	0	12	11	137	1,580
Maine	0	0	0	0	0	0	0	0
Massachusetts	0	0	0	0	16	0	2,307	96
New Hampshire	0	0	0	0	0	0	0	0
Rhode Island	0	0	0	0	0	0	566	0
Vermont	0	0	0	0	0	0	0	0
Middle Atlantic	**66,041**	**7,806**	**90,997**	**13,005**	**110,331**	**31,173**	**171,524**	**32,311**
New Jersey	6,730	6,638	12,333	4,287	8,688	5,952	22,806	925
New York	4,317	1,168	8,794	8,718	19,697	25,077	38,648	30,926
Pennsylvania	54,994	0	69,870	0	81,946	144	110,070	460
East North Central	**129,485**	**0**	**237,072**	**0**	**375,039**	**2,790**	**623,072**	**3,783**
Illinois	23,480	0	57,025	0	67,033	0	161,419	105
Indiana	10,798	0	33,802	0	61,473	0	136,458	0
Michigan	4,071	0	22,816	0	79,970	2,790	82,988	3,289
Ohio	91,136	0	119,347	0	147,617	0	173,127	252
Wisconsin	0	0	4,082	0	18,946	0	69,080	137
West North Central	**1,092**	**615**	**2,668**	**306**	**9,768**	**544**	**115,776**	**4,029**
Iowa	0	0	169	0	3,597	0	33,141	0
Kansas	834	615	1,385	306	3,049	518	51,647	2,934
Minnesota	0	0	0	0	1,192	7	10,142	0
Missouri	35	0	805	0	958	19	11,853	1,095
Nebraska	0	0	257	0	435	0	7,875	0
North Dakota	147	0	52	0	373	0	323	0
South Dakota	76	0	0	0	164	0	795	0
South Atlantic	**47,904**	**58,126**	**91,804**	**49,699**	**112,411**	**37,921**	**168,828**	**29,525**
Delaware	2,698	0	5,921	0	5,068	0	2,954	0
District of Columbia	0	0	0	0	0	0	0	0
Florida	3,025	57,746	4,575	49,110	3,211	37,805	5,241	27,111
Georgia	0	0	11,080	0	31,472	0	56,045	0
Maryland	22,081	0	30,165	0	31,008	0	39,362	0
North Carolina	4,390	380	8,861	589	2,890	116	12,292	185
South Carolina	1,819	0	1,106	0	422	0	7,308	0
Virginia	2,885	0	12,446	0	14,137	0	11,735	2,229
West Virginia	11,006	0	17,650	0	24,203	0	33,891	0
East South Central	**66,950**	**11,617**	**86,838**	**13,296**	**119,527**	**12,116**	**145,515**	**14,652**
Alabama	17,656	229	26,554	853	27,643	775	51,415	1,079
Kentucky	1,669	0	5,137	0	20,113	0	32,085	0
Mississippi	47,395	11,388	35,935	12,443	40,908	11,341	32,042	13,573
Tennessee	230	0	19,212	0	30,863	0	29,973	0
West South Central	**1,195,858**	**804,657**	**1,264,426**	**615,127**	**1,390,469**	**618,511**	**1,489,407**	**702,703**
Arkansas	15,960	0	29,546	0	48,694	0	29,024	0
Louisiana	419,444	130,889	368,603	108,660	323,895	176,140	316,840	192,026
Oklahoma	523	197,867	26,846	179,901	93,807	180,481	141,058	169,756
Texas	759,931	475,901	839,431	326,566	924,073	261,890	1,002,485	340,921
Mountain	**6,375**	**15,436**	**17,574**	**8,551**	**24,043**	**188**	**60,562**	**33,130**
Arizona	0	6,937	1,428	0	0	0	2,429	21,619
Colorado	476	0	4,717	0	10,921	188	13,390	5,919
Idaho	4,066	0	4,743	0	2,032	0	12,746	0
Montana	1,118	0	761	0	1,254	0	1,952	0
Nevada	0	0	0	0	0	0	4,098	5,108
New Mexico	66	8,499	64	8,551	0	0	8,448	484
Utah	0	0	0	0	0	0	6,099	0
Wyoming	649	0	5,861	0	9,836	0	11,400	0
Pacific	**45,799**	**12,595**	**48,231**	**15,137**	**98,764**	**17,647**	**292,408**	**95,512**
Alaska	19,293	12,361	20,493	15,015	19,257	11,742	18,100	6,297
California	23,785	234	23,762	122	68,982	5,905	263,991	89,215
Hawaii	0	0	0	0	0	0	0	0
Oregon	2,586	0	3,264	0	5,255	0	4,483	0
Washington	135	0	712	0	5,270	0	5,834	0

a. Is part of the total deliveries to end users as shown in Table 3-14.

Source: U.S. Department of Energy, Energy Information Administration, *Natural Gas Annual*, 1987.

TABLE 3-16
SUPPLEMENTAL GAS SUPPLIES BY STATE, 1987

(Millions of Cubic Feet)

Division and State	Total	Synthetic Natural Gas	Propane-Air	Refinery Gas	Other[a]
United States	**101,382**	**67,017**	**3,061**	**14,373**	**16,931**
New England	**2,157**	**287**	**1,844**	**26**	**0**
Connecticut	180	0	180	0	0
Maine	0	0	0	0	0
Massachusetts	1,404	287	1,091	26	0
New Hampshire	464	0	464	0	0
Rhode Island	109	0	109	0	0
Vermont	0	0	0	0	0
Middle Atlantic	**14,437**	**172**	**277**	**13,473**	**515**
New Jersey	13,774	172	6	13,473	123[b]
New York	416	0	24	0	392[c]
Pennsylvania	247	0	247	0	0
East North Central	**18,906**	**12,493**	**494**	**874**	**5,044**
Illinois	12,514	12,493	21	0	0
Indiana	3,890	0	454	874	2,562[d]
Michigan	2,483	0	f	0	2,482[e]
Ohio	18	0	18	0	0
Wisconsin	1	0	1	0	0
West North Central	**53,784**	**51,543**	**5**	**0**	**2,236**
Iowa	40	0	3	0	37[d]
Kansas	0	0	0	0	0
Minnesota	1	0	1	0	0
Missouri	1	0	1	0	0
Nebraska	2,199	0	f	0	2,199[e]
North Dakota	51,543	51,543	0	0	0
South Dakota	0	0	0	0	0
South Atlantic	**547**	**60**	**263**	**0**	**224**
Delaware	f	0	f	0	0
District of Columbia	0	0	0	0	0
Florida	0	0	0	0	0
Georgia	248	0	24	0	224[c]
Maryland	136	60	76	0	0
North Carolina	0	0	0	0	0
South Carolina	22	0	22	0	0
Virginia	141	0	141	0	0
West Virginia	0	0	0	0	0
East South Central	**28**	**f**	**28**	**0**	**0**
Alabama	2	0	2	0	0
Kentucky	f	f	0	0	0
Mississippi	0	0	0	0	0
Tennessee	26	0	26	0	0
West South Central	**4**	**0**	**4**	**0**	**0**
Arkansas	0	0	0	0	0
Louisiana	0	0	0	0	0
Oklahoma	0	0	0	0	0
Texas	4	0	4	0	0
Mountain	**9,027**	**0**	**116**	**0**	**8,912**
Arizona	101	0	101	0	0
Colorado	8,612	0	4	0	8,609[e]
Idaho	0	0	0	0	0
Montana	0	0	0	0	0
Nevada	11	0	11	0	0
New Mexico	0	0	0	0	0
Utah	0	0	0	0	0
Wyoming	303	0	0	0	303[e]
Pacific	**2,492**	**2,461**	**31**	**0**	**0**
Alaska	0	0	0	0	0
California	0	0	0	0	0
Hawaii	2,461	2,461	0	0	0
Oregon	10	0	10	0	0
Washington	21	0	21	0	0

a. Includes coke oven gas, manufactured gas, biomass gas, and air injection for Btu stabilization.
b. Manufactured gas.
c. Biomass gas.
d. Coke oven gas.
e. Air injection for Btu stabilization.
f. Less than 500,000 cubic feet.

Source: U.S. Department of Energy, Energy Information Administration, *Natural Gas Annual*, 1987.

TABLE 3-10
TOTAL OFFSHORE PRODUCTION OF NATURAL GAS AND PERCENT STATE/FEDERALLY CONTROLLED, BY STATE, 1966–1988

	Alaska			California			Louisiana			Texas			Total		
		Percent			Percent			Percent			Percent			Percent	
Year	MMcf	State	OCS	MMcf	State	OCS	MMcf	State	OCS	MMcf	State	OCS	MMcf	State	OCS
1966	1,200	100	—	46,839	100	—	1,248,237	23	77	63,682	29	71	1,359,958	26	74
1967	9,046	100	—	46,732	100	—	1,482,622	27	73	160,798	22	78	1,699,198	30	70
1968	25,807	100	—	86,565	99	1	1,906,483	26	74	300,689	29	71	2,319,543	34	66
1969	43,243	100	—	83,904	94	6	2,380,225	23	77	238,056	47	53	2,745,429	29	71
1970	83,140	100	—	71,121	83	17	2,868,466	21	79	264,661	50	50	3,287,388	26	74
1971	86,326	100	—	61,448	74	26	3,207,475	18	82	235,600	67	33	3,590,850	23	77
1972	76,819	100	—	44,781	78	22	3,485,003	17	83	277,282	47	53	3,883,885	22	78
1973	74,655	100	—	37,883	81	19	3,612,878	15	85	251,038	41	59	3,976,454	19	81
1974	74,672	100	—	34,505	84	16	3,867,751	13	87	269,577	41	59	4,246,505	17	83
1975	76,295	100	—	27,272	85	15	3,840,631	13	87	220,530	44	56	4,164,727	17	83
1976	74,143	100	—	22,459	84	16	4,012,801	13	87	205,993	55	45	4,315,396	17	83
1977	77,540	100	—	17,527	81	19	4,133,610	12	88	268,250	68	32	4,496,927	17	83
1978	74,910	100	—	17,668	80	20	4,639,460	11	89	402,000	42	58	5,134,039	15	85
1979	73,792	100	—	16,417	82	18	4,635,487	10	90	719,208	29	71	5,444,904	14	86
1980	64,543	100	—	16,182	81	19	4,422,492	9	91	879,020	29	71	5,382,236	14	86
1981	72,307	100	—	26,237	51	49	4,480,934	8	92	966,983	24	76	5,546,462	12	88
1982	68,372	100	—	31,758	44	56	4,163,089	9	91	1,104,987	22	78	5,368,207	13	87
1983	68,837	100	—	29,878	46	54	3,490,146	9	91	998,951	15	85	4,587,812	12	88
1984	68,688	100	—	41,643	33	67	3,892,103	8	92	1,043,384	11	89	5,045,819	10	90
1985	62,796	100	—	68,647	28	72	3,346,856	7	93	943,057	11	89	4,421,357	9	91
1986	63,351	100	—	60,942	30	70	3,155,961	7	93	1,093,497	10	90	4,373,751	10	90
1987	61,233	100	—	53,991	24	76	3,401,277	7	93	1,303,074	8	92	4,819,576	8	92
1988	66,971	100	—	45,286	24	76	3,307,312	6	94	1,276,500	8	92	4,696,069	8	92

Source: U.S. Department of the Interior, Minerals Management Service, *Federal Offshore Statistics*.
Note: Totals may not add due to independent rounding.

TABLE 3-18
NUMBER OF PRODUCING GAS WELLS, BY STATE, 1970-1988[a]

Division and State	1970	1975	1980	1985	1986	1987^{R}	1988^{P}
United States	**117,483**	**132,095**	**182,004**	**243,344**	**241,527**	**249,225**	**256,004**
New England	**0**	**0**	**0**		**0**	**0**	**0**
Middle Atlantic	**16,839**	**18,200**	**21,976**	**31,000**	**32,547**	**32,967**	**33,340**
New Jersey	0	0	0	0	0	0	0
New York	600	900	2,076	4,500	4,947	5,167	5,340
Pennsylvania	16,239	17,300	19,900	26,500	27,600	27,800	28,000
East North Central	**9,082**	**11,110**	**18,442**	**33,393**	**34,813**	**35,805**	**36,193**
Illinois	8	41	70	123	152	169	277
Indiana	50	478	698	1,272	1,289	1,298	1,298
Michigan	1,235	209	423	655	651	722	687
Ohio	7,789	10,382	17,251	31,343	32,721	33,616	33,931
Wisconsin	0	0	0	0	0	0	0
West North Central	**8,735**	**8,925**	**12,935**	**16,109**	**11,615**	**13,767**	**12,691**
Iowa	0	0	0	0	0	0	0
Kansas	8,660	8,865	12,820	15,980	11,485	13,631	12,538
Minnesota	0	0	0	0	0	0	0
Missouri	11	3	0	4	9	3	0
Nebraska	35	19	22	19	16	20	0
North Dakota	29	18	80	62	61	61	101
South Dakota	0	20	13	44	44	52	52
South Atlantic	**20,833**	**21,901**	**26,167**	**32,977**	**33,979**	**34,997**	**35,360**
Delaware	0	0	0	0	0	0	0
District of Columbia	0	0	0	0	0	0	0
Florida	0	0	0	0	0	0	0
Georgia	0	0	0	0	0	0	0
Maryland	16	15	9	7	6	8	0
North Carolina	0	0	0	0	0	0	0
South Carolina	0	0	0	0	0	0	0
Virginia	115	186	258	495	573	689	710
West Virginia	20,702	21,700	25,900	32,475	33,400	34,300	34,650
East South Central	**7,255**	**7,684**	**8,922**	**11,846**	**12,111**	**13,116**	**13,286**
Alabama	2	45	314	863	1,029	1,135	1,190
Kentucky	6,913	7,386	7,984	9,285	9,747	10,366	10,797
Mississippi	325	248	447	710	414	775	535
Tennessee	15	5	177	988	921	840	764
West South Central	**42,283**	**48,440**	**71,447**	**88,415**	**86,507**	**88,707**	**92,441**
Arkansas	1,008	1,128	1,114	2,623	2,719	2,847	2,996
Louisiana	9,690	11,359	16,190	16,716	15,313	15,890	16,154
Oklahoma	8,168	9,769	16,419	24,756	25,762	26,595	27,307
Texas	23,417	26,184	37,724	44,320	42,713	43,375	45,984
Mountain	**11,425**	**14,189**	**20,914**	**27,945**	**28,540**	**28,477**	**27,920**
Arizona	4	1	1	1	1	0	0
Colorado	861	1,380	2,997	4,401	4,398	4,530	4,326
Idaho	0	0	0	0	0	0	0
Montana	739	1,235	1,881	2,260	2,799	2,349	2,023
Nevada	0	0	0	0	0	0	0
New Mexico	8,848	10,352	14,571	18,308	18,647	18,806	18,964
Utah	173	271	200	755	594	645	460
Wyoming	800	950	1,264	2,220	2,101	2,147	2,147
Pacific	**1,031**	**1,646**	**1,201**	**1,659**	**1,415**	**1,389**	**1,377**
Alaska	51	61	71	84	85	85	108
California	980	1,585	1,125	1,566	1,316	1,294	1,269
Hawaii	0	0	0	0	0	0	0
Oregon	0	0	5	9	14	10	0
Washington	0	0	0	0	0	0	0
Other States	**0**	**0**	**0**	**0**	**0**	**0**	**98**
Federal Waters	**b**	**b**	**b**	**b**	**b**	**b**	**3,298**

a. Data pertain only to dry gas and condensate wells. Data as of December 31.

b. "Federal Waters" is included in Texas, Louisiana, and California totals.

R – Revised. P – Preliminary.

Source: Preliminary numbers taken from *World Oil*, February, 1989. Revised numbers taken from U.S. Department of Energy, Energy Information Administration, *Natural Gas Annual*, 1987.

TABLE 3-19
NEW GAS WELL COMPLETIONS, BY STATE, 1970-1988[a]

Division and State	1970	1975	1980	1985	1986R	1987R	1988P
United States	**4,031**	**8,169**	**17,132**	**12,875[b]**	**7,862**	**7,315**	**5,535**
New England	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Middle Atlantic	**255**	**964**	**1,634**	**1,777**	**1,169**	**1,081**	**526**
New Jersey	0	0	0	0	0	0	0
New York	17	362	368	312	208	199	76
Pennsylvania	238	602	1,266	1,465	961	882	450
East North Central	**750**	**835**	**2,795**	**1,208**	**619**	**599**	**394**
Illinois	6	5	14	38	25	18	31
Indiana	5	17	46	24	25	15	11
Michigan	18	34	52	42	67	123	226
Ohio	721	779	2,683	1,104	502	443	126
Wisconsin	0	0	0	0	0	0	0
West North Central	**111**	**501**	**681**	**512**	**390**	**413**	**477**
Iowa	0	0	0	0	0	0	0
Kansas	109	499	642	502	387	404	472
Minnesota	0	0	0	0	0	0	0
Missouri	0	1	2	2	0	0	0
Nebraska	2	1	3	1	1	1	0
North Dakota	0	0	14	4	2	2	1
South Dakota	0	0	20	3	0	6	4
South Atlantic	**707**	**595**	**1,545**	**1,250**	**895**	**758**	**469**
Delaware	0	0	0	0	0	0	0
District of Columbia	0	0	0	0	0	0	0
Florida	0	0	1	1	0	0	0
Georgia	0	0	0	0	0	0	0
Maryland	0	0	0	0	0	0	0
North Carolina	0	0	0	0	0	0	0
South Carolina	0	0	0	0	0	0	0
Virginia	0	26	17	84	132	17	22
West Virginia	707	569	1,527	1,165	763	741	447
East South Central	**141**	**242**	**581**	**683**	**443**	**433**	**275**
Alabama	5	34	64	116	62	51	59
Kentucky	110	128	191	415	279	279	165
Mississippi	16	32	69	58	33	37	22
Tennessee	10	48	257	94	69	66	29
West South Central	**1,685**	**3,872**	**7,627**	**5,720**	**3,388**	**3,236**	**2,591**
Arkansas	32	24	121	256	157	169	152
Louisiana	575	830	1,787	1,007	540	492	343
Oklahoma	295	667	2,146	1,483	1,092	986	732
Texas	783	2,351	3,573	2,974	1,599	1,589	1,364
Mountain	**326**	**1,108**	**2,179**	**1,195**	**851**	**712**	**713**
Arizona	0	0	0	0	0	0	0
Colorado	54	268	546	399	415	333	375
Idaho	0	0	0	0	0	0	0
Montana	48	265	226	83	94	71	65
Nevada	0	0	1	0	0	0	0
New Mexico	169	464	1,061	577	241	227	212
Utah	10	16	97	62	52	22	19
Wyoming	45	95	248	74	49	59	42
Pacific	**56**	**52**	**90**	**123**	**101**	**80**	**85**
Alaska	2	3	2	0	5	3	3
California	54	49	86	120	94	70	75
Hawaii	0	0	0	0	0	0	0
Oregon	0	0	2	3	2	7	7
Washington	0	0	0	0	0	0	0
Federal Waters	**0**	**0**	**0**	**206**	**6**	**3**	**5**

a. Data is published "as reported"; therefore, recent periods are incomplete and understate actual drilling levels. See detailed explanation at the beginning of this section.

b. Reflects API estimates. State totals do not add to U.S. total. See Footnote a.

R-Revised. P-Preliminary.

Source: American Petroleum Institute, *Well Completions and Footage Drilled in the U.S.* (Data for 1970, 1975 and 1980); *Quarterly Completion Report*, Fourth Quarter, 1986 (1984 Data); Fourth Quarter, 1985 (1983 Data); Second Quarter, 1987 (1985 Data); Fourth Quarter, 1988 (1986, 1987 and 1988 data).

TABLE 3-20
NEW FIELD WILDCAT WELLS DRILLED AND PROPORTION SUCCESSFUL 1970-1988[a]

Year	Total Drilled	Dry	Productive	Percent Productive
1970	4,829	4,348	481	10.0
1971	4,636	4,161	475	10.2
1972	5,011	4,454	557	11.1
1973	5,096	4,346	750	14.7
1974	5,946	5,084	862	14.5
1975	6,238	5,315	923	14.8
1976	5,856	4,871	985	16.8
1977	6,162	5,170	992	16.1
1978	6,731	5,603	1,128	16.8
1979	6,423	5,203	1,220	19.0
1980	7,332	5,973	1,359	18.5
1981	9,151	7,563	1,588	17.4
1982	7,386	6,061	1,325	17.9
1983	6,057	5,063	994	16.4
1984	6,528	5,545	983	15.1
1985	5,569	4,801	768	13.8
1986^{R}	3,484	2,996	488	14.0
1987^{R}	3,425	2,930	495	14.4
1988^{P}	2,963	2,570	393	13.3

a. Data is published "as reported"; therefore, recent periods are incomplete and understate actual drilling levels. See detailed explanation at the beginning of this section.

R-Revised. P-Preliminary.

Source: American Petroleum Institute, *Quarterly Completion Report*, Fourth Quarter, 1988.

TABLE 3-21
NEW WELL COMPLETIONS, BY TYPE OF WELL, 1970-1988[a]

Year	Total[b]	Oil	Gas	Dry	Service[c]
1970	28,173	13,043	4,031	11,099	1,258
1971	26,268	11,903	3,983	10,382	1,365
1972	27,934	11,437	5,484	11,013	1,458
1973	27,692	10,251	6,975	10,466	908
1974	33,037	13,664	7,168	12,205	1,132
1975	38,884	16,979	8,169	13,736	1,612
1976	40,940	17,697	9,438	13,805	1,528
1977	45,855	18,700	12,119	15,036	1,320
1978	50,061	19,065	14,405	16,591	1,547
1979	51,890	20,689	15,166	16,035	1,424
1980	69,486	32,120	17,132	20,234	1,952
1981	89,234	42,520	19,742	26,972	2,223
1982	83,889	39,252	18,810	25,827	2,051
1983	75,738	37,396	14,505	23,837	1,917
1984	84,983	44,472	14,962	25,549	2,104
1985	70,708	36,374	12,875	21,459	1,627
1986^{R}	38,241	18,272	7,862	12,107	755
1987^{R}	33,474	15,506	7,315	10,653	779
1988^{P}	24,498	10,542	5,535	8,421	677

a. See detailed explanation at the beginning of this section.

b. Includes Oil, Gas and Dry, but not service.

c. Excludes stratigraphic and core tests. Based on "as reported" data. Not included in Total.

R-Revised. P-Preliminary.

Source: Oil and Gas Journal prior to 1968, American Petroleum Institute, *Quarterly Completion Report*, Fourth Quarter, 1988.

Note: All data from 1982-1988 reflects API estimates except service.

TABLE 3-22
NEW WELL COMPLETIONS, BY TYPE OF WELL AND STATE, 1988[a]

Division and State	Total[b]	Oil	Gas	Dry	Service
United States	**24,498**	**10,542**	**5,535**	**8,421**	**677**
New England	**0**	**0**	**0**	**0**	**0**
Middle Atlantic	**569**	**6**	**526**	**37**	**0**
New Jersey	0	0	0	0	0
New York	91	1	76	14	0
Pennsylvania	478	5	450	23	0
East North Central	**2,019**	**910**	**394**	**715**	**98**
Illinois	841	464	31	346	94
Indiana	179	66	11	102	1
Michigan	514	62	226	226	3
Ohio	485	318	126	41	0
Wisconsin	0	0	0	0	0
West North Central	**2,794**	**1,004**	**477**	**1,313**	**2**
Iowa	1	0	0	1	0
Kansas	2,434	851	472	1,111	0
Minnesota	0	0	0	0	0
Missouri	9	2	0	7	0
Nebraska	120	28	0	92	1
North Dakota	219	121	1	97	1
South Dakota	11	2	4	5	0
South Atlantic	**535**	**47**	**469**	**19**	**0**
Delaware	0	0	0	0	0
District of Columbia	0	0	0	0	0
Florida	8	1	0	7	0
Georgia	2	0	0	2	0
Maryland	2	0	0	2	0
North Carolina	0	0	0	0	0
South Carolina	0	0	0	0	0
Virginia	25	1	22	2	0
West Virginia	498	45	447	6	0
East South Central	**994**	**244**	**275**	**475**	**3**
Alabama	197	22	59	116	0
Kentucky	406	103	165	138	3
Mississippi	322	94	22	206	0
Tennessee	69	25	29	15	0
West South Central	**13,172**	**5,915**	**2,591**	**4,666**	**354**
Arkansas	369	39	152	178	0
Louisiana	1,751	505	343	903	1
Oklahoma	2,591	1,030	732	829	38
Texas	8,461	4,341	1,364	2,756	315
Mountain	**2,579**	**896**	**713**	**970**	**29**
Arizona	1	0	0	1	0
Colorado	837	168	375	294	0
Idaho	2	0	0	2	0
Montana	313	99	65	149	6
Nevada	15	3	0	12	0
New Mexico	739	371	212	156	8
Utah	102	47	19	36	0
Wyoming	570	208	42	320	15
Pacific	**1,740**	**1,511**	**85**	**144**	**191**
Alaska	87	80	3	4	5
California	1,635	1,431	75	129	183
Hawaii	0	0	0	0	0
Oregon	15	0	7	8	3
Washington	3	0	0	3	0
Federal Waters	**96**	**9**	**5**	**82**	**0**

a. Based on "as reported" data; therefore data understates actual levels of drilling activity. See detailed explanation at the beginning of this section.

b. Excludes service wells, stratigraphic and core tests.

Source: American Petroleum Institute, *Quarterly Completion Report.*

TABLE 3-23
HOLES DRILLED AND PROPORTION SUCCESSFUL, BY TYPE OF EXPLORATION HOLE
1970-1987

	Outposts-Extensions	New-Pool Wildcats	Deeper-Pool Tests	Shallower-Pool Tests	New-Field Wildcats	Total
1970						
Drilled	1,228	1,043	260	93	5,069	7,693
Dry	832	808	167	39	4,576	6,422
Productive	396	235	93	54	493	1,271
Percent Productive	32.2	22.5	35.8	58.1	9.7	16.5
1975						
Drilled	1,577	1,112	288	133	6,104	9,214
Dry	905	719	181	38	5,228	7,071
Productive	672	393	107	95	876	2,143
Percent Productive	42.6	35.3	37.2	71.4	14.4	23.3
1980						
Drilled	1,981	1,819	789	293	7,034	11,916
Dry	1,104	952	523	69	5,694	8,342
Productive	877	867	266	224	1,340	3,574
Percent Productive	44.3	47.7	33.7	76.4	19.1	30.0
1981						
Drilled	3,028	2,340	1,299	449	8,052	15,168
Dry	1,541	1,353	907	153	6,629	10,583
Productive	1,487	987	392	296	1,423	4,585
Percent Productive	49.1	42.2	30.2	65.9	17.7	30.2
1982						
Drilled	3,328	2,870	1,782	613	7,914	16,507
Dry	1,864	1,699	1,315	233	6,512	11,623
Productive	1,464	1,171	467	380	1,402	4,884
Percent Productive	44.0	40.8	26.2	62.0	17.7	29.6
1983						
Drilled	2,498	2,281	1,979	640	6,489	13,887
Dry	1,437	1,340	1,491	288	5,351	9,907
Productive	1,061	941	488	352	1,138	3,980
Percent Productive	42.5	41.3	24.7	55.0	17.5	28.7
1984						
Drilled	3,340	2,580	2,311	758	6,088	15,077
Dry	2,077	1,618	1,869	384	5,208	11,156
Productive	1,263	962	442	374	880	3,921
Percent Productive	37.8	37.3	19.1	49.3	14.5	26.0
1985						
Drilled	2,510	2,343	2,013	602	6,364	13,832
Dry	1,473	1,356	1,627	291	5,355	10,102
Productive	1,037	987	386	311	1,009	3,730
Percent Productive	41.3	42.1	19.2	51.7	15.9	27.0
1986						
Drilled	1,596	579	1,709	391	4,731	9,006
Dry	888	162	1,485	210	4,039	6,784
Productive	708	417	224	181	692	2,222
Percent Productive	44.4	72.0	13.1	46.3	14.6	24.7
1987						
Drilled	1,251	367	1,357	310	3,716	7,001
Dry	744	117	1,174	174	3,210	5,419
Productive	507	250	183	136	506	1,582
Percent Productive	40.5	68.1	13.5	43.9	13.6	22.6

Source: Committee on Statistics of Drilling, *American Association of Petroleum Geologists Bulletin*, 1987.

TABLE 3-24
EXPLORATORY WELLS AND DRY HOLES DRILLED, BY STATE AND TYPE OF WELL, 1988[a]

Division and State	Total Drilled	Dry Holes	Producers		
			Total	Oil	Gas
United States	**6,009**	**4,582**	**1,427**	**790**	**637**
New England	**0**	**0**	**0**	**0**	**0**
Middle Atlantic	**41**	**24**	**17**	**0**	**17**
New Jersey	0	0	0	0	0
New York	4	1	3	0	3
Pennsylvania	37	23	14	0	14
East North Central	**635**	**542**	**93**	**48**	**45**
Illinois	248	229	19	17	2
Indiana	99	81	18	13	5
Michigan	250	211	39	11	28
Ohio	38	21	17	7	10
Wisconsin	0	0	0	0	0
West North Central	**1,229**	**893**	**336**	**277**	**59**
Iowa	1	1	0	0	0
Kansas	984	709	275	218	57
Minnesota	0	0	0	0	0
Missouri	10	10	0	0	0
Nebraska	89	75	14	14	0
North Dakota	136	92	44	43	1
South Dakota	9	6	3	2	1
South Atlantic	**25**	**16**	**9**	**1**	**8**
Delaware	0	0	0	0	0
District of Columbia	0	0	0	0	0
Florida	7	7	0	0	0
Georgia	2	2	0	0	0
Maryland	1	1	0	0	0
North Carolina	0	0	0	0	0
South Carolina	1	1	0	0	0
Virginia	4	1	3	1	2
West Virginia	10	4	6	0	6
East South Central	**361**	**290**	**71**	**28**	**43**
Alabama	99	73	26	6	20
Kentucky	117	94	23	11	12
Mississippi	137	118	19	10	9
Tennessee	8	5	3	1	2
West South Central	**2,587**	**1,934**	**653**	**279**	**374**
Arkansas	57	45	12	6	6
Louisiana	340	298	42	14	28
Oklahoma	230	174	56	31	25
Texas	1,960	1,417	543	228	315
Mountain	**916**	**706**	**210**	**145**	**65**
Arizona	1	1	0	0	0
Colorado	291	233	58	43	15
Idaho	2	2	0	0	0
Montana	139	116	23	11	12
Nevada	14	12	2	2	0
New Mexico	110	57	53	31	22
Utah	41	25	16	10	6
Wyoming	318	260	58	48	10
Pacific	**126**	**94**	**32**	**9**	**23**
Alaska	3	1	2	0	2
California	109	82	27	9	18
Hawaii	0	0	0	0	0
Oregon	11	8	3	0	3
Washington	3	3	0	0	0
Federal Waters	**89**	**83**	**6**	**3**	**3**

a. See detailed explanation at the beginning of this section.

Source: American Petroleum Institute, *Quarterly Completion Report*, Second Quarter 1989.

TABLE 3-25
DRILLING OPERATIONS AND EXPENDITURES, BY TYPE OF WELL, 1986-1987[a]

	Total	Oil	Gas[b]	Dry
			1986	
Wells drilled	37,173	18,198	7,351	11,624
Footage drilled (000)	176,289	75,847	41,324	59,118
Expenditures (000)	$13,552,403	$ 5,184,093	$3,843,883	$4,524,427
Average depth per well (ft)	4,742	4,168	5,622	5,086
Average cost per well	$ 364,577	$ 284,872	$ 522,906	$ 389,232
Average cost per foot	$ 76.88	$ 68.35	$ 93.02	$ 76.53
			1987	
Wells drilled	33,041	15,326	7,255	10,460
Footage drilled (000)	157,357	64,602	39,674	53,080
Expenditures (000)	$ 9,238,749	$ 3,769,430	$2,759,470	$2,709,850
Average depth per well (ft)	4,762	4,215	5,469	5,075
Average cost per well	$ 279,615	$ 245,950	$ 380,354	$ 259,068
Average cost per foot	$ 58.71	$ 58.35	$ 69.55	$ 51.05

a. Includes all charges for drilling and equipping wells up to and including the "Christmas" trees, but excludes exploration, development and production costs and expenditures for service wells.

b. Includes condensate wells.

Source: American Petroleum Institute, *Joint Association Survey on Drilling Costs*, December 1988.

TABLE 3-26
OFFSHORE DRILLING OPERATIONS AND EXPENDITURES, BY TYPE OF WELL, 1986-1987[a]

	Total	Oil	Gas[b]	Dry
			1986	
Wells drilled	898	333	207	358
Footage drilled (000)	9,408	3,139	2,300	3,969
Expenditures (000)	$3,596,314	$1,040,990	$ 941,245	$1,614,079
Average depth per well (ft)	10,476	9,426	11,112	11,086
Average cost per well	$4,004,805	$3,126,096	$4,547,079	$4,508,601
Average cost per foot	$ 382.27	$ 331.64	$ 409.22	$ 406.70
			1987	
Wells drilled	709	224	142	343
Footage drilled (000)	7,345	2,172	1,548	3,625
Expenditures (000)	$2,053,285	$ 696,024	$ 421,325	$ 935,936
Average depth per well (ft)	10,360	9,695	10,904	10,569
Average cost per well	$2,896,030	$3,107,252	$2,967,077	$2,728,676
Average cost per foot	$ 279.54	$ 320.50	$ 272.10	$ 258.18

a. Includes all charges for drilling and equipping wells up to and including the "Christmas" trees, but excludes exploration, development and production costs and expenditures for service wells.

b. Includes condensate wells.

Source: American Petroleum Institute, *Joint Association Survey on Drilling Costs*, December 1988.

TABLE 3-27
AVERAGE COST PER FOOT BY TYPE OF WELL, BY DEPTH CLASSES, 1983-1987[a]

Depth Range (in feet)	Total	Oil	Gas	Dry
1983				
0- 1,249	$ 37.13	$ 39.35	$ 44.63	$ 29.96
1,250- 2,499	38.07	44.71	40.89	24.60
2,500- 3,749	38.08	43.61	43.20	25.19
3,750- 4,999	41.01	50.52	40.01	28.54
5,000- 7,499	53.44	61.93	53.38	43.02
7,500- 9,999	81.37	82.91	86.27	74.99
10,000-12,499	127.31	131.51	146.48	104.95
12,500-14,999	211.85	216.01	220.35	202.20
15,000-17,499	295.25	340.40	302.32	275.03
17,500-19,999	412.40	365.65	413.40	416.48
20,000 and over	645.79	578.32	659.82	639.18
1984				
0- 1,249	$ 37.61	$ 41.49	$ 39.43	$ 24.90
1,250- 2,499	37.79	43.91	39.46	24.04
2,500- 3,749	38.73	45.75	40.28	24.70
3,750- 4,999	38.96	46.96	40.86	27.38
5,000- 7,499	50.91	60.26	51.17	37.97
7,500- 9,999	72.53	72.38	89.14	61.23
10,000-12,499	110.00	110.48	128.02	95.02
12,500-14,999	172.41	175.18	189.63	158.07
15,000-17,499	258.70	234.18	279.90	250.02
17,500-19,999	338.58	299.16	326.98	352.65
20,000 and over	574.81	447.54	545.20	625.53
1985				
0- 1,249	$ 35.39	$ 38.32	$ 36.38	$ 25.79
1,250- 2,499	38.81	44.40	41.28	24.64
2,500- 3,749	39.10	44.36	42.05	27.53
3,750- 4,999	38.62	45.71	40.14	28.09
5,000- 7,499	50.58	58.29	53.46	38.04
7,500- 9,999	76.85	76.13	90.81	68.99
10,000-12,499	113.68	103.56	127.28	113.25
12,500-14,999	171.90	157.41	204.18	155.54
15,000-17,499	276.97	285.93	299.27	258.17
17,500-19,999	323.87	390.31	316.85	317.55
20,000 and over	506.29	272.77	505.90	525.57
1986				
0- 1,249	$ 34.70	$ 39.47	$ 39.13	$ 21.30
1,250- 2,499	36.49	41.39	40.57	24.51
2,500- 3,749	37.31	43.27	40.36	24.64
3,750- 4,999	32.98	36.87	37.04	25.41
5,000- 7,499	46.36	53.14	47.45	37.61
7,500- 9,999	73.17	74.37	77.66	67.97
10,000-12,499	114.20	128.76	120.11	94.44
12,500-14,999	177.23	165.90	207.39	164.08
15,000-17,499	283.52	259.14	309.14	271.09
17,500-19,999	310.98	337.88	346.10	283.70
20,000 and over	596.27	478.83	640.53	597.67
1987				
0- 1,249	$ 34.16	$ 40.10	$ 32.64	$ 19.05
1,250- 2,499	35.60	41.22	40.76	21.01
2,500- 3,749	33.93	36.65	42.86	22.64
3,750- 4,999	30.68	34.90	35.39	22.87
5,000- 7,499	38.06	45.15	39.05	29.02
7,500- 9,999	59.83	66.93	64.63	42.83
10,000-12,499	95.09	116.55	97.03	74.14
12,500-14,999	137.43	155.39	139.25	125.24
15,000-17,499	183.23	175.43	196.91	172.48
17,500-19,999	239.08	108.70	230.19	255.61
20,000 and over	581.66	—	425.86	680.53

[a] Includes all charges for drilling and equipping wells up to and including the "Christmas" trees but excludes exploration, development and production costs and expenditures for service wells.

Source: American Petroleum Institute, *Joint Association Survey on Drilling Costs*, December 1987.

TABLE 3-17
NATURAL GAS TREATED FOR NATURAL GASOLINE AND ALLIED PRODUCTS, AND QUANTITIES AND VALUE OF PRODUCTS RECOVERED, 1966–1988[a]

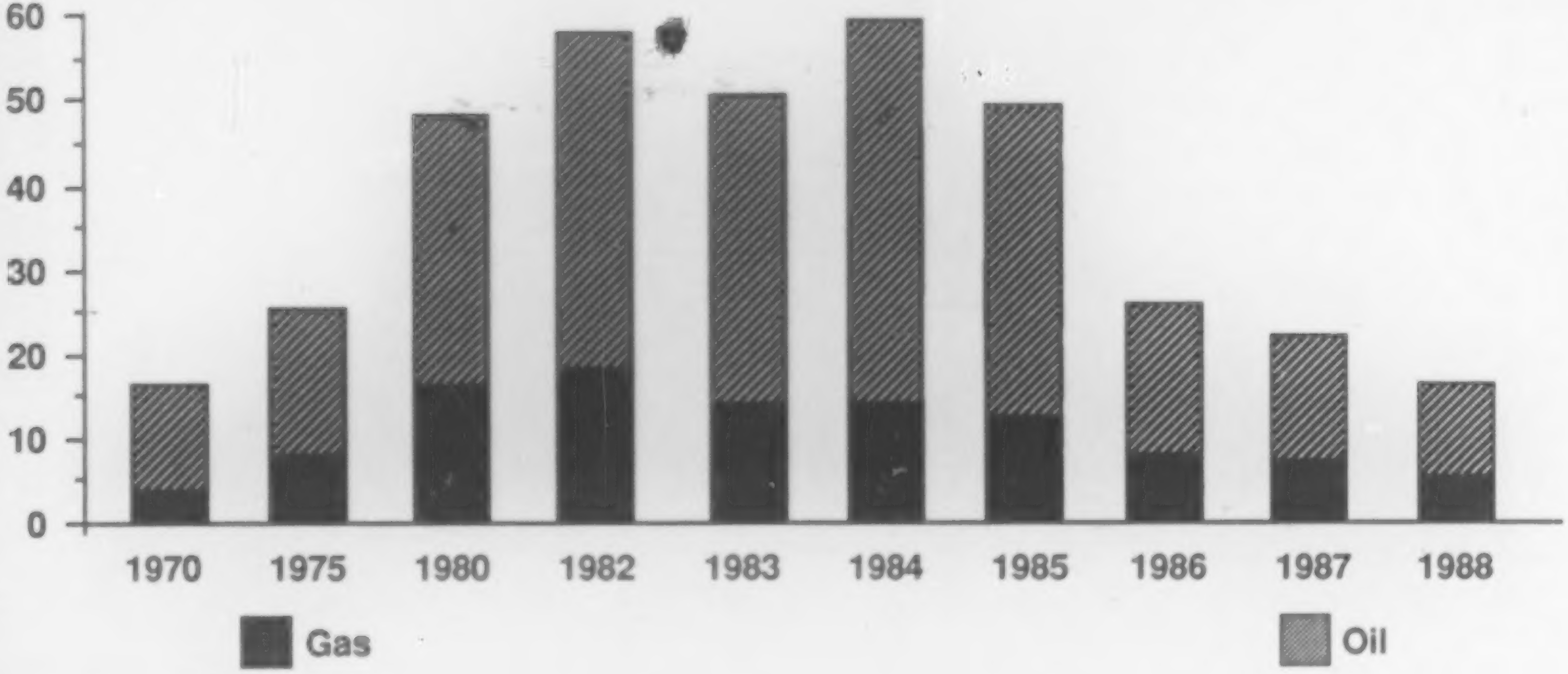
		Products Recovered							
	Natural Gas Treated	Natural Gasoline		Liquefied Petroleum Gases		Finished Gasoline and Naphtha		Other Products[b]	
Year	(Millions of cubic feet)	Quantity (Thousands of gallons)	Value (Thousands of dollars)	Quantity (Thousands of gallons)	Value (Thousands of dollars)	Quantity (Thousands of gallons)	Value (Thousands of dollars)	Quantity (Thousands of gallons)	Value (Thousands of dollars)
1966	14,924,429	5,564,139	366,332	12,134,294	527,223	380,135	33,380	1,604,154	120,426
1967	15,641,633	5,850,271	389,156	13,717,861	632,994	307,263	28,044	1,731,727	129,742
1968	16,316,674	6,210,708	411,695	14,753,004	552,335	280,728	26,577	1,868,622	133,407
1969	17,655,108	6,633,018	457,986	15,895,194	498,927	374,514	36,954	1,467,396	108,144
1970	18,509,309	6,935,838	468,602	16,783,662	672,088	240,702	23,234	1,488,270	111,188
1971	19,252,807	6,942,474	496,676	17,540,628	769,397	224,784	23,210	1,240,344	96,771
1972	19,906,893	6,875,442	500,425	18,678,912	828,718	186,732	20,737	1,063,986	83,261
1973	19,679,291	6,791,736	568,214	18,775,386	1,188,289	136,038	13,902	942,606	86,668
1974	18,684,480	6,212,766	974,825	18,813,732	1,980,769	52,878	10,028	797,664	122,305
1975	17,748,426	5,620,608	777,637	18,651,612	1,893,890	45,528	8,411	712,488	92,650
1976	17,717,951	5,575,584	882,718	18,369,372	2,298,647	40,572	9,650	670,362	93,074
1977	17,569,835	5,587,134	c	18,604,152	c	30,156	c	577,668	c
1978	c	5,306,784	c	18,124,512	c	28,896	c	567,420	c
1979	c	4,042,668	c	26,008,878	c	271,908	c	917,952	c
1980	c	4,560,696	c	18,518,304	c	239,694	c	864,360	c
1981	c	4,471,740	c	19,259,772	c	154,014	c	773,472	c
1982	c	3,850,308	c	19,277,622	c	93,030	c	545,916	c
1983	c	3,015,684	c	20,142,276	c	128,772	c	608,160	c
1984	c	4,490,136	c	20,506,248	c	2,898	c	52,752	c
1985	c	4,321,212	c	20,131,440	c	89,124	c	127,260	c
1986	c	4,122,930	c	19,581,912	c	4,872	c	62,286	c
1987	c	4,462,626	c	19,927,362	c	5,166	c	61,068	c
1988	c	4,649,694	c	20,268,192	c	4,914	c	54,264	c

a. Due to changes in reporting requirements, 1979-1988 data is not comparable with prior years.
b. Includes kerosene, distillate fuel oil, and miscellaneous products.
c. Not available.
Source: U.S. Department of Energy, Energy Information Administration, *Petroleum Supply Annual*, 1988.

CHART 3-2

TOTAL GAS AND OIL NEW WELL COMPLETIONS

(THOUSANDS)

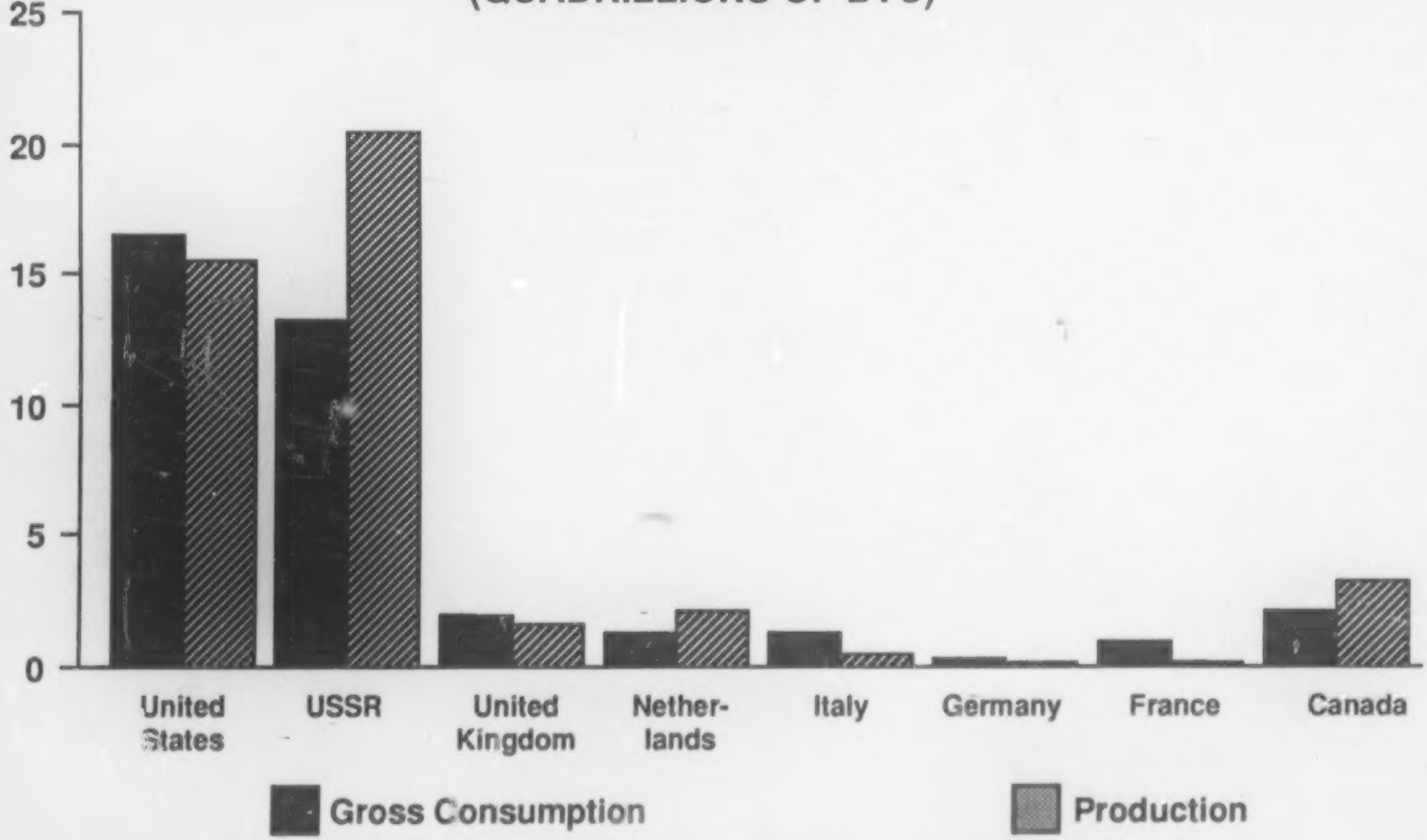


REFERENCE: TABLE 3-21

CHART 3-3

NATURAL GAS PRODUCTION AND GROSS CONSUMPTION, 1987

(QUADRILLIONS OF BTU)



REFERENCE: TABLE 3-28

SUPPLY

TABLE 3-28
SELECT WORLD NATURAL GAS STATISTICS
1987

Country	Production	Imports	Exports	Gross Consumption	Residential Consumers (000)	Miles of Pipeline (000)
	(Trillions of Btu)					
Austria	39.8	134.4	—	183.5	970	7.8
Belgium	0.9	307.5	11.1	290.9	1,944	21.2
Canada	3,233.9	3.3	1,004.3	2,235.9	3,151	143.6[a]
Czechoslovakia	24.7	359.3	19.6	307.2[c]	2,566	20.4
Denmark	90.2	—	23.8[a]	45.4[a]	357[c]	2.7[d]
Finland	—	53.0	—	53.0	92	.8
France	130.2	912.3	16.1	996.8	8,684	85.4
German Democratic Republic	139.1	223.4	7.7	354.2	3,513	26.4
Federal Republic of Germany	509.5	1,364.1	48.9	1,810.0	9,200	117.1
Greece	4.5	—	—	4.5	6	.3
Hungary	217.6	157.3	7.0	371.1	1,374	12.6
Ireland	54.3	—	—	55.0[a]	152[a]	2.4[a]
Italy	524.8	759.9	—	1,272.6	10,200	75.3
Luxembourg	—	13.9	—	13.9	59[a]	.6[a]
Netherlands	2,227.8	63.9	957.2	1,334.1	5,132[a]	58.2[a]
Norway	1,012.7	—	959.0	53.7	2[d]	.1[a]
Poland	149.6	240.6	—	387.7	5,123	29.8
Spain	25.3	87.4	—	113.3	1,567[a]	6.3[a]
Switzerland	.3	57.6	1.6	56.3	482	6.5
USSR	20,484.8[a]	—	—	13,184.5[e]	65,085[a]	237.6[a]
United Kingdom	1,589.4	403.0	—	1,968.3	16,500	150.0
United States	15,578.0	933.3	56.7	16,472.5	46,331[b]	967.6[e]
Yugoslavia	85.7	139.9	—	225.5	425[c]	4.5

a. 1986 data.
b. 1985 data.
c. 1984 data.
d. 1983 data.
e. 1980 data.
Source: United Nations, *Annual Bulletin of Gas Statistics for Europe*, 1987.

TABLE 3-29
WORLD WELL COMPLETIONS
1986[a]

Area	Oil	Gas	Dry	Service	Suspended	Total Wells	Total Footage
North America	21,977	8,682	14,131	855	41	45,706	212,138,136
South America	1,906	57	404	290	310	2,967	15,233,977
Far East	669	167	249	180	91	8,386[b]	48,952,349
Western Europe	275	231	263	39	85	893	6,781,732
Middle East	436	20	84	53	53	861[c]	5,151,364
Africa	239	28	173	29	31	500	4,413,263
Oceania	43	34	119	1	17	214	1,394,120
World Total	25,545	9,219	15,423	1,447	628	59,527	294,064,941

a. No drilling data available for Eastern Europe, USSR, Iran and Iraq.
b. Total does not add due to inclusion of 7,030 total wells from China.
c. Total does not add due to inclusion of 54 total wells from Iran, 108 total wells from Syria, and 53 total wells from Iraq.
Source: *World Oil*, August 1987.

WORLD WELL COMPLETIONS
1987[a]

Area	Oil	Gas	Dry	Service	Suspended	Total Wells	Total Footage
North America	19,917	9,695	13,007	865	17	43,522[b]	194,891,712
South America	1,984	89	412	105	163	2,753	15,510,799
Far East	5,055	646	203	1,341	97	8,503[c]	49,520,731
Western Europe	295	220	221	46	97	879	7,242,765
Middle East	290	22	64	33	51	667[d]	4,854,022
Africa	237	31	146	41	20	475	3,975,081
Oceana	82	50	160	0	16	308	2,114,456
World Total	27,860	10,753	14,213	2,431	461	57,107	278,109,566

a. No drilling data available for Eastern Europe, USSR, Iraq, Syria, Yemen and Cuba.
b. Total does not add due to inclusion of 21 total wells from Cuba.
c. Total does not add due to inclusion of 1,161 total wells from China.
d. Total does not add due to inclusion of 52 total wells from Iraq, 100 total wells from Syria and 55 total wells from Yemen.
Source: *World Oil*, August 1988.

WORLD WELL COMPLETIONS
1988[a]

Area	Oil	Gas	Dry	Service	Suspended	Total Wells[b]	Total Footage
North America	15,959	9,166	11,374	1,066	34	37,599[c]	177,217,122
South America	2,007	85	460	96	13	2.661	15,598,420
Far East	5,829	158	218	1,771	96	10,022	58,190,278
Western Europe	308	277	250	46	49	930	8,120,771
Middle East	342	35	83	28	38	690	4,700,896
Africa	200	37	125	52	10	589	4,878,189
Oceania	96	67	157	0	24	344	2,183,518
World Total	24,741	9,825	12,667	3,059	264	52,835	270,889,194

a. No drilling data available for Eastern Europe and USSR.
b. 1988 wells drilled totals and subtotals may not add horizontally due to lack of breakdown in some countries.
c. Includes actual United States well count by American Petroleum Institute. Number will increase as additional well completions are reported to API.
Source: *World Oil*, August 1989.

SECTION 4
UNDERGROUND GAS STORAGE

	1988	% Change 88/87
Number of Pools	393	+ 0.5
Est. Ultimate Capacity Millions of cubic feet)	7,796,605	− 0.1
Input to Storage (Millions of cubic feet)	2,086,095	+10.5
Output from Storage (Millions of cubic feet)	1,959,872	+ 3.6
Maximum Day Output (Millions of cubic feet)	39,075	+ 6.6

TABLE 4-1
NUMBER OF UNDERGROUND STORAGE POOLS AND ULTIMATE CAPACITY IN THE UNITED STATES, 1966-1988

Year	Number of Pools	Number of States	Est. Ultimate Capacity (Billions of Cubic Feet)
1966	303	24	4,421
1967	308	25	4,520
1968	315	26	4,783
1969	320	26	4,927
1970	325	26	5,178
1971	333	26	5,575
1972	348	26	6,040
1973	360	26	6,279
1974	367	26	6,360
1975.	376	26	6,644
1976	386	26	6,927
1977	385	26	7,223
1978	388	26	7,330
1979	399	26	7,437
1980	401	26	7,488
1981	393	26	7,581
1982	404	26	7,727
1983	419	26	7,755
1984	412	26	7,783
1985	400	26	7,731
1986	396	26	7,792
1987	391	26	7,807
1988	393	27	7,797

Source: A.G.A. *The Underground Storage of Gas in the United States and Canada*—1988 Update.

UNDERGROUND STORAGE

TABLE 4-2
NUMBER OF AQUIFER POOLS AND ULTIMATE CAPACITY IN THE UNITED STATES, 1970–1988[a]

Year	Number of Pools	Number of States	Est. Ultimate Capacity (Billions of Cubic Feet)
1970	43	9	968
1971	44	8	1,056
1972	46	9	1,278
1973	49	10	1,399
1974	51	10	1,408
1975	52	10	1,459
1976	52	10	1,484
1977	52	10	1,578
1978	53	10	1,593
1979	56	10	1,601
1980	57	10	1,449
1981	57	10	1,423
1982	56	10	1,432
1983	56	10	1,421
1984	54	10	1,472
1985	52	10	1,401
1986	51	10	1,404
1987	48	10	1,386
1988	47	10	1,397

a. These data are included in Table 4-1.

Source: Same as Table 4-1.

TABLE 4-3
LIQUEFIED NATURAL GAS STORAGE OPERATIONS IN THE UNITED STATES AS OF DECEMBER 31, 1988[a]

	Presently Operating	Proposed or Pending Operation
Complete Plants		
Storage Capacity—MMcf	63,388	0
Gross Liquefaction Capacity—MMcf/day	309	0
Sendout Capacity—MMcf/day	8,753	0
Number of Facilities	54	0
Satellite Plants		
Storage Capacity—MMcf	6,644	0
Sendout Capacity—MMcf/day	684	0
Number of Facilities	32	0
Import Terminals[b]		
Storage Capacity—MMcf	11,055	0
Sendout Capacity—MMcf/day	1,193	0
Number of Facilities	3	0

a. Not underground storage.

b. Of those presently operating, Algonquin terminal has been utilized for domestic storage since 1973.

Source: Institute of Gas Technology.

UNDERGROUND STORAGE

TABLE 4-4
INPUTS, OUTPUTS, AND GAS IN UNDERGROUND STORAGE, BY STATE, 1988

(Millions of Cubic Feet)

	Year Ending December 31, 1988					
Division and State	Input to Storage	Output from Storage	Native Gas	Stored Gas	Maximum Stored Gas	Maximum Day Output
United States	**2,086,095**	**1,959,872**	**1,114,989**	**5,259,782**	**5,739,413**	**39,075**
New England	**0**	**0**	**0**	**0**	**0**	**0**
Middle Atlantic	**403,457**	**387,542**	**43,330**	**734,887**	**815,547**	**5,659**
New Jersey	0	0	0	0	0	0
New York	56,301	52,531	15,096	137,371	148,532	811
Pennsylvania	347,156	335,011	28,234	597,516	667,015	4,848
East North Central	**703,388**	**690,708**	**350,640**	**1,848,438**	**2,010,736**	**12,523**
Illinois	181,049	159,010	11,259	826,085	857,294	3,314
Indiana	17,714	18,237	19,298	83,891	89,550	470
Michigan	338,850	343,806	237,736	547,584	626,180	6,095
Ohio	165,775	169,655	82,347	390,878	437,712	2,644
Wisconsin	0	0	0	0	0	0
West North Central	**132,635**	**114,186**	**47,527**	**496,604**	**526,025**	**2,177**
Iowa	54,970	54,615	0	247,644	266,571	837
Kansas	68,909	51,136	23,735	151,484	160,664	793
Minnesota	1,141	872	0	6,883	6,902	58
Missouri	0	0	0	29,286	29,298	360
Nebraska	7,615	7,563	23,792	61,307	62,590	129
North Dakota	0	0	0	0	0	0
South Dakota	0	0	0	0	0	0
South Atlantic	**136,810**	**162,610**	**65,456**	**422,782**	**460,868**	**3,170**
Delaware	0	0	0	0	0	0
District of Columbia	0	0	0	0	0	0
Florida	0	0	0	0	0	0
Georgia	0	0	0	0	0	0
Maryland	10,521	14,478	32,456	21,374	27,590	300
North Carolina	0	0	0	0	0	0
South Carolina	0	0	0	0	0	0
Virginia	0	0	0	0	0	0
West Virginia	126,289	148,132	33,000	401,408	433,278	2,870
East South Central	**97,410**	**111,952**	**108,105**	**160,234**	**194,362**	**2,315**
Alabama	0	0	0	0	0	0
Kentucky	55,629	68,943	80,782	91,220	120,423	1,328
Mississippi	41,781	43,009	27,323	69,014	73,939	987
Tennessee	0	0	0	0	0	0
West South Central	**404,213**	**309,799**	**184,097**	**946,144**	**1,010,087**	**8,025**
Arkansas	1,530	1,941	22,000	11,913	12,625	100
Louisiana	193,457	139,803	72,011	392,272	416,726	2,272
Oklahoma	92,013	79,483	22,715	293,538	319,815	1,900
Texas	117,213	88,572	67,371	248,421	260,921	3,753
Mountain	**73,114**	**70,763**	**162,248**	**385,609**	**410,454**	**1,410**
Arizona	0	0	0	0	0	0
Colorado	30,658	31,868	31,432	66,127	72,356	669
Idaho	0	0	0	0	0	0
Montana	13,782	20,351	94,370	228,973	236,913	257
Nevada	0	0	0	0	0	0
New Mexico	18,215	13,285	10,600	31,091	38,974	279
Utah	710	504	0	3,922	3,922	35
Wyoming	9,749	4,754	25,846	55,496	58,289	170
Pacific	**135,068**	**112,313**	**153,586**	**265,084**	**311,334**	**3,796**
Alaska	0	0	0	0	0	0
California	129,127	105,749	151,694	228,570	273,920	3,608
Hawaii	0	0	0	0	0	0
Oregon	0	0	1,892	4,081	4,081	0
Washington	5,941	6,564	0	32,433	33,333	188

Source: .Same as Table 4-1

TABLE 4-5
NUMBER OF POOLS, WELLS, COMPRESSOR STATIONS, AND HORSEPOWER IN UNDERGROUND STORAGE FIELDS, BY STATE, 1986–1988

Division and State	Number of Pools			Number of Active Wells		
	1986	1987	1988	1986	1987	1988
(1) **United States**	**396**	**391**	**393**	**18,320**	**18,216**	**17,232**
(2) **New England**	**0**	**0**	**0**	**0**	**0**	**0**
(3) **Middle Atlantic**	**80**	**80**	**81**	**3,197**	**3,144**	**2,329**
(4) New Jersey	0	0	0	0	0	0
(5) New York	21	21	21	1,009	968	1,018
(6) Pennsylvania	59	59	60	2,188	2,176	1,311
(7) **East North Central**	**138**	**133**	**133**	**8,930**	**8,807**	**8,792**
(8) Illinois	33	31	30	1,739	1,697	1,696
(9) Indiana	29	28	28	941	924	924
(10) Michigan	53	52	53	2,963	2,955	2,936
(11) Ohio	23	22	22	3,295	3,231	3,236
(12) Wisconsin	0	0	0	0	0	0
(13) **West North Central**	**29**	**30**	**28**	**1,422**	**1,440**	**1,383**
(14) Iowa	8	8	8	434	434	434
(15) Kansas	17	18	16	789	789	735
(16) Minnesota	1	1	1	63	66	63
(17) Missouri	1	1	1	82	82	82
(18) Nebraska	2	2	2	54	69	69
(19) North Dakota	0	0	0	0	0	0
(20) South Dakota	0	0	0	0	0	0
(21) **South Atlantic**	**39**	**38**	**38**	**1,664**	**1,663**	**1,656**
(22) Delaware	0	0	0	0	0	0
(23) District of Columbia	0	0	0	0	0	0
(24) Florida	0	0	0	0	0	0
(25) Georgia	0	0	0	0	0	0
(26) Maryland	1	1	1	82	82	82
(27) North Carolina	0	0	0	0	0	0
(28) South Carolina	0	0	0	0	0	0
(29) Virginia	0	0	0	0	0	0
(30) West Virginia	38	37	37	1,582	1,581	1,574
(31) **East South Central**	**24**	**25**	**23**	**1,099**	**1,107**	**1,059**
(32) Alabama	0	0	0	0	0	0
(33) Kentucky	20	21	19	998	1,006	963
(34) Mississippi	4	4	4	101	101	96
(35) Tennessee	0	0	0	0	0	0
(36) **West South Central**	**46**	**44**	**45**	**956**	**1,016**	**936**
(37) Arkansas	4	5	4	12	12	12
(38) Louisiana	9	8	8	348	380	296
(39) Oklahoma	13	12	12	291	289	297
(40) Texas	20	19	21	305	335	331
(41) **Mountain**	**29**	**30**	**32**	**535**	**536**	**574**
(42) Arizona	0	0	0	0	0	0
(43) Colorado	9	10	12	200	196	238
(44) Idaho	0	0	0	0	0	0
(45) Montana	5	5	5	239	242	238
(46) Nevada	0	0	0	0	0	0
(47) New Mexico	3	3	3	43	43	43
(48) Utah	2	2	2	19	19	19
(49) Wyoming	10	10	10	34	36	36
(50) **Pacific**	**11**	**11**	**13**	**509**	**503**	**503**
(51) Alaska	0	0	0	0	0	0
(52) California	9	9	9	432	426	426
(53) Hawaii	0	0	0	0	0	0
(54) Oregon	0	0	2	0	0	0
(55) Washington	2	2	2	77	77	77

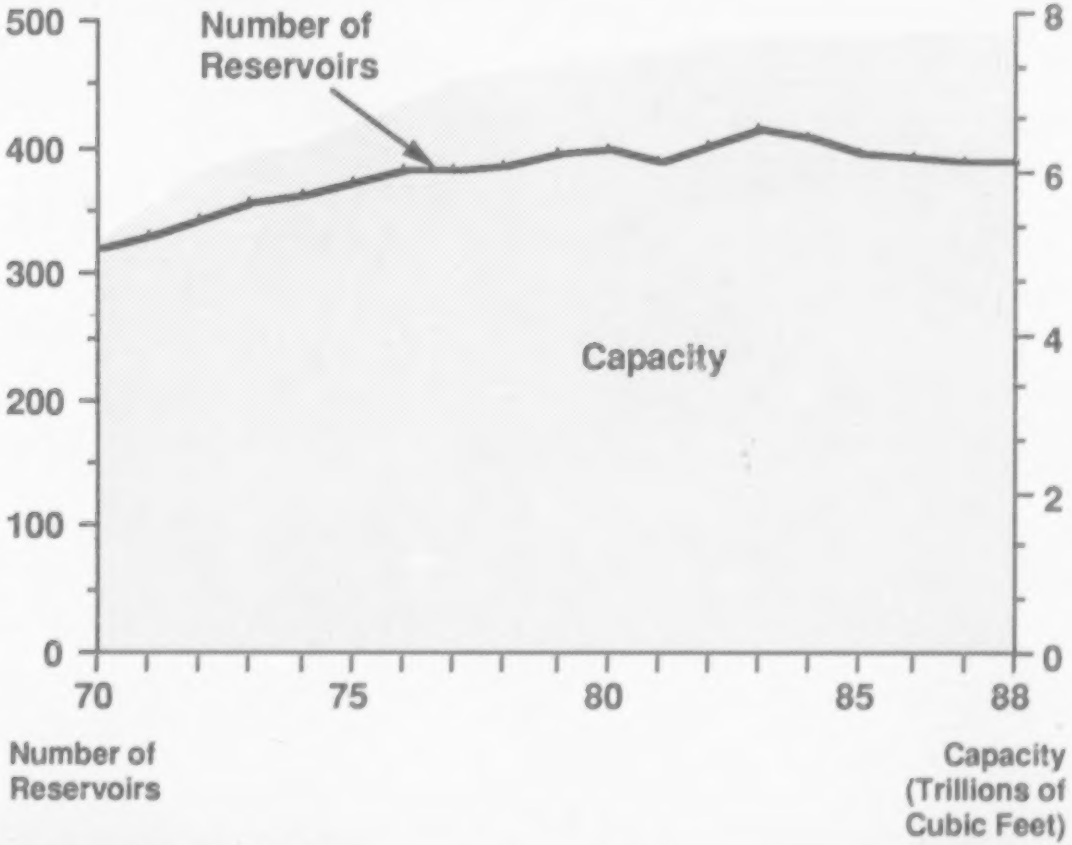
Source: Same as Table 4-1.

TABLE 4-5 (Continued)
NUMBER OF POOLS, WELLS, COMPRESSOR STATIONS, AND HORSEPOWER IN UNDERGROUND STORAGE FIELDS, BY STATE, 1986–1988

Number of Compressor Stations			Total HP Installed in Compressor Stations			
1986	1987	1988	1986	1987	1988	
274	**283**	**295**	**1,675,512**	**1,668,885**	**1,458,639**	(1)
0	**0**	**0**	**0**	**0**	**0**	(2)
49	**46**	**34**	**234,745**	**235,480**	**86,655**	(3)
0	0	0	0	0	0	(4)
14	12	14	39,435	28,110	30,960	(5)
35	34	20	195,310	207,370	55,695	(6)
86	**88**	**116**	**656,840**	**684,600**	**675,231**	(7)
27	29	27	199,490	220,170	220,170	(8)
15	14	13	19,345	19,145	18,711	(9)
25	27	58	330,150	338,355	328,860	(10)
19	18	18	107,855	106,930	107,490	(11)
0	0	0	0	0	0	(12)
23	**22**	**31**	**94,050**	**87,190**	**69,150**	(13)
4	3	2	37,040	30,040	14,000	(14)
15	15	14	35,210	35,210	33,210	(15)
1	1	1	2,400	2,400	2,400	(16)
1	1	1	8,850	8,850	8,850	(17)
2	2	13	10,550	10,690	10,690	(18)
0	0	0	0	0	0	(19)
0	0	0	0	0	0	(20)
17	**17**	**17**	**66,010**	**66,010**	**65,690**	(21)
0	0	0	0	0	0	(22)
0	0	0	0	0	0	(23)
0	0	0	0	0	0	(24)
0	0	0	0	0	0	(25)
1	1	1	11,000	11,000	11,000	(26)
0	0	0	0	0	0	(27)
0	0	0	0	0	0	(28)
0	0	0	0	0	0	(29)
16	16	16	55,010	55,010	54,690	(30)
17	**33**	**12**	**71,250**	**71,790**	**60,590**	(31)
0	0	0	0	0	0	(32)
14	30	10	35,750	36,290	36,290	(33)
3	3	2	35,500	35,500	24,300	(34)
0	0	0	0	0	0	(35)
45	**40**	**41**	**339,293**	**309,663**	**300,853**	(36)
3	3	3	2,400	2,500	2,500	(37)
8	7	6	158,040	129,100	115,460	(38)
9	9	8	78,510	78,510	78,150	(39)
25	21	24	100,343	99,553	104,743	(40)
26	**24**	**32**	**82,244**	**83,072**	**78,290**	(41)
0	0	0	0	0	0	(42)
8	8	9	34,500	34,628	30,396	(43)
0	0	0	0	0	0	(44)
6	6	11	24,225	24,225	24,225	(45)
0	0	0	0	0	0	(46)
3	3	3	11,180	11,180	11,180	(47)
2	2	2	1,200	1,900	1,350	(48)
7	7	7	11,139	11,139	11,139	(49)
11	**11**	**12**	**131,080**	**131,080**	**122,180**	(50)
0	0	0	0	0	0	(51)
10	10	10	118,580	118,580	118,580	(52)
0	0	0	0	0	0	(53)
0	0	1	0	0	3,600	(54)
1	1	1	12,500	12,500	0	(55)

CHART 4-1

NUMBER AND CAPACITY OF EXISTING UNDERGROUND STORAGE RESERVOIRS



REFERENCE: TABLE 4-1

TABLE 4-6
ULTIMATE CAPACITY OF EXISTING RESERVOIRS, BY STATE, 1988

(Millions of Cubic Feet)

Division and State	Cushion Gas			Working Gas	Ultimate Reservoir Capacity[a]
	Native	Injected	Total		
United States	**1,114,989**	**2,446,242**	**3,561,231**	**2,833,541**	**7,796,605**
New England	**0**	**0**	**0**	**0**	**0**
Middle Atlantic	**43,330**	**389,390**	**432,720**	**345,497**	**917,056**
New Jersey	0	0	0	0	0
New York	15,096	79,838	94,933	57,534	180,386
Pennsylvania	28,234	309,552	337,787	287,963	736,670
East North Central	**350,640**	**1,006,465**	**1,357,105**	**853,694**	**2,654,016**
Illinois	11,259	544,141	555,400	282,082	907,781
Indiana	19,298	56,413	75,711	27,478	163,205
Michigan	237,736	160,259	397,995	398,908	989,023
Ohio	82,347	245,652	327,999	145,226	594,007
Wisconsin	0	0	0	0	0
West North Central	**47,527**	**223,696**	**271,224**	**272,907**	**719,429**
Iowa	0	117,751	117,751	129,893	354,500
Kansas	23,735	85,977	109,713	65,507	206,617
Minnesota	0	4,689	4,689	2,193	20,000
Missouri	0	11,759	11,759	17,527	45,000
Nebraska	23,792	3,520	27,312	57,787	93,312
North Dakota	0	0	0	0	0
South Dakota	0	0	0	0	0
South Atlantic	**65,456**	**253,481**	**318,937**	**169,301**	**568,036**
Delaware	0	0	0	0	0
District of Columbia	0	0	0	0	0
Florida	0	0	0	0	0
Georgia	0	0	0	0	0
Maryland	32,456	14,221	46,677	7,153	64,770
North Carolina	0	0	0	0	0
South Carolina	0	0	0	0	0
Virginia	0	0	0	0	0
West Virginia	33,000	239,260	272,260	162,148	503,266
East South Central	**108,105**	**41,738**	**149,843**	**118,994**	**315,268**
Alabama	0	0	0	0	0
Kentucky	80,782	22,971	103,753	68,746	206,918
Mississippi	27,323	18,767	46,090	50,248	108,350
Tennessee	0	0	0	0	0
West South Central	**184,097**	**347,357**	**531,454**	**606,497**	**1,378,068**
Arkansas	22,000	0	22,000	11,913	38,000
Lousiana	72,011	191,072	263,083	201,200	561,625
Oklahoma	22,715	128,199	150,914	165,339	370,423
Texas	67,371	28,086	95,457	228,045	408,020
Mountain	**162,248**	**70,665**	**232,913**	**314,945**	**692,832**
Arizona	0	0	0	0	0
Colorado	31,432	31,023	62,455	35,104	116,197
Idaho	0	0	0	0	0
Montana	94,370	15,200	109,570	213,773	373,960
Nevada	0	0	0	0	0
New Mexico	10,600	12,828	23,428	18,263	91,353
Utah	0	2,800	2,800	1,122	5,389
Wyoming	25,846	8,814	34,660	46,683	105,933
Pacific	**153,586**	**113,449**	**267,035**	**151,706**	**551,900**
Alaska	0	0	0	0	0
California	151,694	90,750	242,444	137,891	506,608
Hawaii	0	0	0	0	0
Oregon	1,892	1,399	3,291	2,682	10,291
Washington	0	21,300	21,300	11,133	35,001

a. In some states or regions, the difference between the sum of the components and Ultimate Reservoir Capacity represents presently unused capacity.

Source: Same as Table 4-1.

SECTION 5
DISTRIBUTION AND TRANSMISSION

	1988	% Change 88/87
Miles of Pipeline (Thousands)		
Total	1,167.8	+ 1.4
Field &Gathering	92.3	− 1.4
Transmission	275.1	+ 0.5
Distribution	800.4	+ 2.1
Miles Installed (Thousands)	19.6	+ 4.0

DISTRIBUTION AND TRANSMISSION

TABLE 5-1
GAS UTILITY INDUSTRY MILES OF PIPELINE AND MAIN, BY TYPE, 1966-1988[a]

(Thousands)

Year	Total	Field and Gathering	Transmission Pipeline[b]	Distribution Main
1966	799.6	63.0	217.0	519.6
1967	828.3	63.7	225.4	539.2
1968	861.6	64.4	234.5	562.7
1969	891.6	64.9	248.1	578.6
1970	913.3	66.3	252.2	594.8
1971	931.4	66.2	254.8	610.4
1972	948.1	66.9	258.1	623.1
1973	962.9	65.9	263.1	633.8
1974	974.1	66.4	262.2	645.6
1975	979.3	68.5	262.6	648.2
1976	987.7	70.3	258.2	659.1
1977	998.9	71.5	260.5	666.9
1978	1,013.0	74.9	260.6	677.5
1979	1,029.8	77.8	263.5	688.5
1980	1,051.8	83.5	266.5	701.8
1981	1,069.8	86.2	269.5	714.1
1982	1,083.4	90.5	271.7	721.2
1983	1,095.1	91.9	273.5	729.7
1984	1,102.4	93.7	271.9	736.8
1985	1,118.9	94.3	271.2	753.4
1986	1,134.1	93.8	271.0	769.3
1987[R]	1,151.2	93.6	273.8	783.8
1988	1,167.8	92.3	275.1	800.4
Steel	942.8	91.1	271.9	579.8
Plastic[c]	170.2	1.1	3.1	166.0
Other	54.8	.1	.1	54.6

a. Excludes service pipe. Data not adjusted to common diameter equivalent. Mileage shown as of end of each year.

b. Includes 5.0 thousand miles of Underground Storage pipe in 1975, 5.3 thousand miles in 1976, 5.2 thousand miles in 1977, 6.0 thousand miles in 1978, 5.7 thousand miles in 1979, 6.2 thousand miles in 1980, 7.8 thousand miles in 1981, 5.5 thousand miles in 1982, 5.9 thousand miles in 1983 and 1984, 6.0 thousand miles in 1985, 1986, 1987, and 1988 some of which was formerly included in Field and Gathering pipe.

c. Includes fiberglass.

R–Revised.

TABLE 5-2
GAS UTILITY INDUSTRY MILES OF PIPELINE AND MAIN, BY STATE, 1970-1988[a]

Division and State	1970	1975	1980	1985	1986	1987R	1988
United States	**913,267**	**979,263**	**1,051,774**	**1,118,875**	**1,134,110**	**1,151,172**	**1,167,797**
New England	**25,686**	**26,580**	**27,794**	**28,476**	**28,802**	**29,218**	**29,860**
Connecticut	5,728	5,991	6,710	6,550	6,612	6,655	6,814
Maine	705	461	395	411	415	376	433
Massachusetts	15,609	16,452	16,719	17,359	17,565	17,784	18,127
New Hampshire	1,041	1,093	1,163	1,283	1,293	1,417	1,419
Rhode Island	2,299	2,248	2,403	2,463	2,490	2,543	2,610
Vermont	304	335	404	410	427	440	457
Middle Atlantic	**111,644**	**113,993**	**116,439**	**121,682**	**122,872**	**123,837**	**125,232**
New Jersey	21,052	22,077	22,838	24,598	25,187	25,868	26,563
New York	39,955	40,535	41,394	42,334	42,578	43,104	43,497
Pennsylvania	50,637	51,381	52,207	54,750	55,107	54,865	55,172
East North Central	**178,268**	**190,172**	**200,361**	**206,889**	**209,076**	**211,702**	**214,690**
Illinois	46,683	50,252	53,375	54,541	54,960	55,381	56,139
Indiana	25,264	27,267	28,227	30,608	31,319	32,179	32,757
Michigan	37,699	40,203	44,100	44,694	45,130	45,516	46,044
Ohio	49,393	51,505	52,667	54,110	54,419	55,032	55,752
Wisconsin	19,229	20,945	21,992	22,936	23,248	23,594	23,998
West North Central	**99,536**	**106,134**	**112,901**	**115,855**	**118,070**	**119,385**	**120,743**
Iowa	16,654	17,273	17,892	18,254	18,282	18,473	18,675
Kansas	32,802	34,280	36,893	37,093	38,136	38,297	38,274
Minnesota	14,162	15,264	16,720	18,259	19,138	19,479	20,050
Missouri	18,654	20,897	21,854	21,875	22,034	22,545	23,063
Nebraska	12,627	13,333	14,079	14,381	14,436	14,456	14,498
North Dakota	2,332	2,533	2,854	3,208	3,231	3,253	3,269
South Dakota	2,305	2,554	2,609	2,785	2,813	2,882	2,914
South Atlantic	**92,738**	**100,496**	**103,960**	**112,722**	**114,677**	**117,374**	**120,545**
Delaware	1,270	1,322	1,336	1,428	1,455	1,496	1,631
District of Columbia	1,164	1,163	1,157	1,161	1,163	1,165	1,169
Florida	11,435	13,100	12,902	14,974	15,178	15,501	15,764
Georgia	19,549	22,679	24,676	27,190	28,011	28,823	30,153
Maryland	7,986	8,534	8,704	8,888	8,974	9,065	9,307
North Carolina	10,605	11,100	11,842	13,298	13,647	14,020	14,921
South Carolina	8,514	9,667	9,825	11,092	11,140	11,521	11,949
Virginia	10,451	10,944	11,226	12,315	12,959	13,606	13,986
West Virginia	21,764	21,987	22,292	22,376	22,150	22,177	21,665
East South Central	**65,441**	**70,345**	**73,807**	**78,485**	**79,255**	**81,038**	**83,336**
Alabama	16,607	17,832	19,556	20,779	21,120	21,438	22,010
Kentucky	18,295	19,816	19,981	20,991	20,989	21,238	21,626
Mississippi	16,403	17,056	17,911	18,666	18,820	18,926	19,054
Tennessee	14,136	15,641	16,359	18,049	18,326	19,436	20,646
West South Central	**182,752**	**194,820**	**216,394**	**237,776**	**242,607**	**246,590**	**248,946**
Arkansas	16,429	17,474	18,312	20,390	20,483	20,657	21,162
Louisiana	36,921	38,855	41,689	44,784	45,120	47,599	48,184
Oklahoma	28,532	32,798	37,132	42,594	42,483	42,452	42,682
Texas	100,870	105,693	119,261	130,008	134,521	135,882	136,918
Mountain	**71,848**	**83,184**	**97,391**	**107,410**	**107,423**	**108,904**	**109,963**
Arizona	13,379	15,197	16,669	17,341	17,573	17,773	17,923
Colorado	15,870	19,192	23,108	26,837	26,681	26,381	26,598
Idaho	3,226	3,785	4,177	4,589	4,701	4,665	4,708
Montana	6,324	7,435	8,822	8,965	9,040	9,232	9,320
Nevada	2,470	2,945	3,554	3,933	4,107	4,219	4,391
New Mexico	19,050	21,657	24,581	26,684	26,251	26,359	26,455
Utah	5,609	6,577	7,846	9,050	9,066	10,144	10,360
Wyoming	5,920	6,396	8,634	10,011	10,004	10,131	10,208
Pacific	**85,354**	**93,539**	**102,727**	**109,580**	**111,328**	**113,124**	**114,482**
Alaska	667	868	1,186	1,511	1,511	1,917	1,988
California	66,328	72,493	79,625	84,688	86,064	87,006	87,832
Hawaii	530	581	587	590	598	604	608
Oregon	8,014	8,838	9,709	10,390	10,585	10,670	10,788
Washington	9,815	10,759	11,620	12,401	12,570	12,927	13,266

a. Includes field, gathering, underground storage, transmission and distribution main but excludes service pipe. Data not adjusted to common diameter equivalent. Mileage shown as of end of year.

R – Revised.

TABLE 5-3
GAS UTILITY INDUSTRY MILES OF PIPELINE AND MAIN, BY STATE AND TYPE OF MAIN, 1988[a]

Division and State	Total	Field and Gathering	Transmission Pipeline[b]	Distribution Main
United States	**1,167,797**	**92,308**	**275,129**	**800,360**
New England	**29,860**	**0**	**1,704**	**28,156**
Connecticut	6,814	0	489	6,325
Maine	433	0	77	356
Massachusetts	18,127	0	895	17,232
New Hampshire	1,419	0	129	1,290
Rhode Island	2,610	0	58	2,552
Vermont	457	0	56	401
Middle Atlantic	**125,232**	**6,846**	**18,103**	**100,283**
New Jersey	26,563	0	1,573	24,990
New York	43,497	567	3,743	39,187
Pennsylvania	55,172	6,279	12,787	36,106
East North Central	**214,690**	**4,492**	**34,859**	**175,339**
Illinois	56,139	79	9,211	46,849
Indiana	32,757	217	5,704	26,836
Michigan	46,044	178	6,713	39,153
Ohio	55,752	4,018	9,975	41,759
Wisconsin	23,998	0	3,256	20,742
West North Central	**120,743**	**9,182**	**38,836**	**72,725**
Iowa	18,675	74	5,907	12,694
Kansas	38,274	8,830	14,998	14,446
Minnesota	20,050	0	4,298	15,752
Missouri	23,063	25	4,033	19,005
Nebraska	14,498	46	7,490	6,962
North Dakota	3,269	192	1,146	1,931
South Dakota	2,914	15	964	1,935
South Atlantic	**120,545**	**8,447**	**21,895**	**90,203**
Delaware	1,631	0	292	1,339
District of Columbia	1,169	0	24	1,145
Florida	15,764	0	2,919	12,845
Georgia	30,153	0	5,185	24,968
Maryland	9,307	23	866	8,418
North Carolina	14,921	0	2,397	12,524
South Carolina	11,949	0	2,398	9,551
Virginia	13,986	140	2,541	11,305
West Virginia	21,665	8,284	5,273	8,108
East South Central	**83,336**	**3,977**	**27,312**	**52,047**
Alabama	22,010	7	5,511	16,492
Kentucky	21,626	3,752	7,301	10,573
Mississippi	19,054	218	9,618	9,218
Tennessee	20,646	0	4,882	15,764
West South Central	**248,946**	**37,468**	**92,442**	**119,036**
Arkansas	21,162	1,369	6,879	12,914
Louisiana	48,184	2,714	26,743	18,727
Oklahoma	42,682	11,801	12,883	17,998
Texas	136,918	21,584	45,937	69,397
Mountain	**109,963**	**20,859**	**28,652**	**60,452**
Arizona	17,923	2	5,133	12,788
Colorado	26,598	3,982	5,656	16,960
Idaho	4,708	0	1,525	3,183
Montana	9,320	2,157	3,490	3,673
Nevada	4,391	8	1,138	9,216
New Mexico	26,455	10,342	6,897	3,245
Utah	10,360	1,011	1,066	8,283
Wyoming	10,208	3,357	3,747	3,104
Pacific	**114,482**	**1,037**	**11,326**	**102,119**
Alaska	1,988	0	337	1,651
California	87,832	1,037	7,569	79,226
Hawaii	608	0	0	608
Oregon	10,788	0	1,435	9,353
Washington	13,266	0	1,985	11,281

a. Excludes 449,371 miles of service pipe. Data not adjusted to common diameter equivalent. Mileage shown as of end of year.
b. Includes 5,985 miles of underground storage pipe.

TABLE 5-4
GAS UTILITY INDUSTRY MILES OF PIPELINE AND MAIN INSTALLED DURING 1988, BY STATE AND BY TYPE OF PIPE[a]

		Field and Gathering	Transmission Pipeline	Distribution Main			
Division and State	Total[b]	Steel	Steel[c]	Total	Steel	Plastic[d]	Other
United States	**19,606**	**292**	**2,018**	**17,296**	**5,021**	**12,265**	**10**
New England	**689**	**0**	**9**	**680**	**232**	**446**	**2**
Connecticut	169	0	0	169	115	54	0
Maine	9	0	0	9	0	9	0
Massachusetts	383	0	8	375	74	299	2
New Hampshire	50	0	0	50	28	22	0
Rhode Island	58	0	0	58	14	44	0
Vermont	20	0	1	19	1	18	0
Middle Atlantic	**2,179**	**49**	**185**	**1,945**	**406**	**1,539**	**0**
New Jersey	867	0	46	821	168	653	0
New York	524	13	23	488	85	403	0
Pennsylvania	788	36	116	636	153	483	0
East North Central	**3,583**	**29**	**167**	**3,387**	**1,225**	**2,162**	**0**
Illinois	1,009	0	5	1,004	719	285	0
Indiana	654	1	53	600	46	554	0
Michigan	667	18	52	597	31	566	0
Ohio	743	10	28	705	391	314	0
Wisconsin	510	0	29	481	38	443	0
West North Central	**1,837**	**12**	**257**	**1,568**	**331**	**1,237**	**0**
Iowa	207	0	0	207	46	161	0
Kansas	451	12	193	246	116	130	0
Minnesota	656	0	60	596	68	528	0
Missouri	379	0	4	375	64	311	0
Nebraska	80	0	0	80	32	48	0
North Dakota	25	0	0	25	0	25	0
South Dakota	39	0	0	39	5	34	0
South Atlantic	**3,695**	**11**	**339**	**3,345**	**1,393**	**1,944**	**8**
Delaware	83	0	5	78	1	77	0
District of Columbia	14	0	0	14	3	11	0
Florida	296	0	5	291	51	240	0
Georgia	1,172	0	211	961	888	73	0
Maryland	267	0	55	212	97	115	0
North Carolina	815	0	40	775	158	615	2
South Carolina	423	0	0	423	58	363	2
Virginia	447	8	14	425	67	354	4
West Virginia	178	3	9	166	70	96	0
East South Central	**1,639**	**21**	**192**	**1,426**	**387**	**1,039**	**0**
Alabama	463	0	143	320	47	273	0
Kentucky	277	21	31	225	132	93	0
Mississippi	132	0	3	129	15	114	0
Tennessee	767	0	15	752	193	559	0
West South Central	**2,002**	**135**	**606**	**1,261**	**462**	**799**	**0**
Arkansas	188	15	63	110	0	110	0
Louisiana	281	0	166	115	42	73	0
Oklahoma	196	65	24	107	0	107	0
Texas	1,337	55	353	929	420	509	0
Mountain	**2,076**	**29**	**204**	**1,843**	**327**	**1,516**	**0**
Arizona	585	0	0	585	61	524	0
Colorado	366	7	5	354	30	324	0
Idaho	47	0	0	47	3	44	0
Montana	141	5	0	136	2	134	0
Nevada	191	0	6	185	14	171	0
New Mexico	269	17	126	126	7	119	0
Utah	360	0	0	360	194	166	0
Wyoming	117	0	67	50	16	34	0
Pacific	**1,906**	**6**	**59**	**1,841**	**258**	**1,583**	**0**
Alaska	54	0	1	53	1	52	0
California	1,262	6	58	1,198	147	1,051	0
Hawaii	11	0	0	11	0	11	0
Oregon	193	0	0	193	56	137	0
Washington	386	0	0	386	54	332	0

a. Excludes service pipe. Data not adjusted to common diameter equivalent.
b. Does not include 35 miles of plastic and other pipe classified as field and gathering and transmission pipe.
c. Includes 53 miles of underground storage pipe.
d. Includes fiberglass.

DISTRIBUTION AND TRANSMISSION

TABLE 5-5
GAS UTILITY INDUSTRY REQUIREMENTS OF STEEL PIPE FOR NEW CONSTRUCTION AND MAINTENANCE AND REPAIR BY SIZE OF PIPE, 1988

(Miles)

Size of Pipe	Total	New Construction	Maintenance Repair
Normal Pipe Size—Inches			
¾ and less	1,060.8	962.6	98.2
1	162.1	116.9	45.2
1¼	413.2	381.4	31.8
1½	104.7	97.8	6.9
Outside Diameter—Inches			
2⅜	2,174.5	1,736.3	438.2
3½	161.1	129.5	31.6
4½	988.3	830.4	157.9
6⅝	1,222.1	1,041.5	180.6
8⅝	991.1	803.6	187.5
10¾	315.4	294.4	21.0
12¾	539.2	418.2	121.0
14	54.3	54.2	0.1
16	414.8	306.2	108.6
18	119.7	8.4	111.3
20	393.7	352.3	41.4
22	5.0	4.1	0.9
24	27.1	24.9	2.2
26	5.9	0.9	5.0
30	11.5	7.1	4.4
34	0.0	0.0	0.0
36	15.7	15.7	0.0
42	15.2	15.2	0.0
Other Sizes	15.6	15.6	0.0
Total	**9,211.0**	**7,617.2**	**1,593.8**

TABLE 5-6
GAS UTILITY INDUSTRY INSTALLED COMPRESSOR HORSEPOWER, 1966-1988

(Thousands)

Year	Total	Transmission
1966	10,242	8,182
1967	10,746	8,596
1968	11,438	9,146
1969	12,742	9,375
1970	13,150	9,692
1971	14,142	10,763
1972	14,506	10,976
1973	14,858	11,272
1974	15,181	11,883[a]
1975	15,413	12,069
1976	15,472	12,046
1977	15,553	12,105
1978	15,824	12,255
1979	16,030	12,437
1980	16,375	13,091
1981	16,601	13,270
1982	16,965	13,460
1983	16,900	13,426
1984	16,880	13,368
1985	16,567	13,131
1986	16,447	13,167
1987	16,356	13,650
1988	16,865	14,152

[a] Not comparable to previous years due to reclassification.

TABLE 5-7
SELECTED STATISTICS FOR MAJOR TRANSMISSION COMPANIES, 1988

Name of Transmission System	No. of Transmission Compressor Stations	Total Miles of Transmission Pipeline	Peak Day Sendout (MMCF)	Operating Revenues ($000,000)
Algonquin Gas Transmission Co.	5	983	961	$ 531.9
ANR Pipeline Co.	45	8,919	1,635	1,282.0
Colorado Interstate Gas Co.	27	2,998	1,174	430.5
Columbia Gas Transmission Co.	120	10,950	5,915	1,906.1
Columbia Gulf Transmission Co.	13	4,270	2,051	129.2
Consolidated Gas Transmission Corp.	44	3,641	2,454	1,042.3
East Tennessee Natural Gas Co.	15	1,091	447	261.6
El Paso Natural Gas Co.	88	10,765	908	1,041.7
Enron-Northern Natural	123	16,317	3,979	1,447.2
Florida Gas Transmission Co.	20	4,425	917	555.1
Midwestern Gas Transmission Co.	15	903	1,053	386.8
Mississippi River Transmission Co.	15	2,018	881	446.6
Natural Gas Pipeline Co. of America	55	10,385	3,691	1,601.4
Pacific Gas Transmission Co.	14	799	1,158	793.4
Panhandle Eastern Pipeline Co.	66	6,663	454	597.1
South Georgia Natural Gas Co.	2	767	a	35.1
Southern Natural Gas Co.	48	7,656	1,886	781.8
Tenneco, Inc.	68	14,067	6,760	1,593.4
Texas Eastern Transmission Co.	78	9,859	4,743	2,054.9
Texas Gas Transmission Corp.	27	5,745	3,232	816.1
Transcontinental Gas Pipeline Corp.	40	10,458	13,028	1,225.6
Transwestern Pipeline Co.	121	4,457	1,039	391.5
Trunkline Gas Co.	19	4,044	a	628.5
United Gas Pipeline Co.	29	7,255	482	713.8
Williams Natural Gas Co.	40	5,857	a	502.9

a. Not available.

Source: Federal Energy Regulatory Commission, FERC Form No. 2: Annual Report of Natural Gas Companies (Class A and Class B), 1988.

SECTION 6
SALES—QUANTITIES

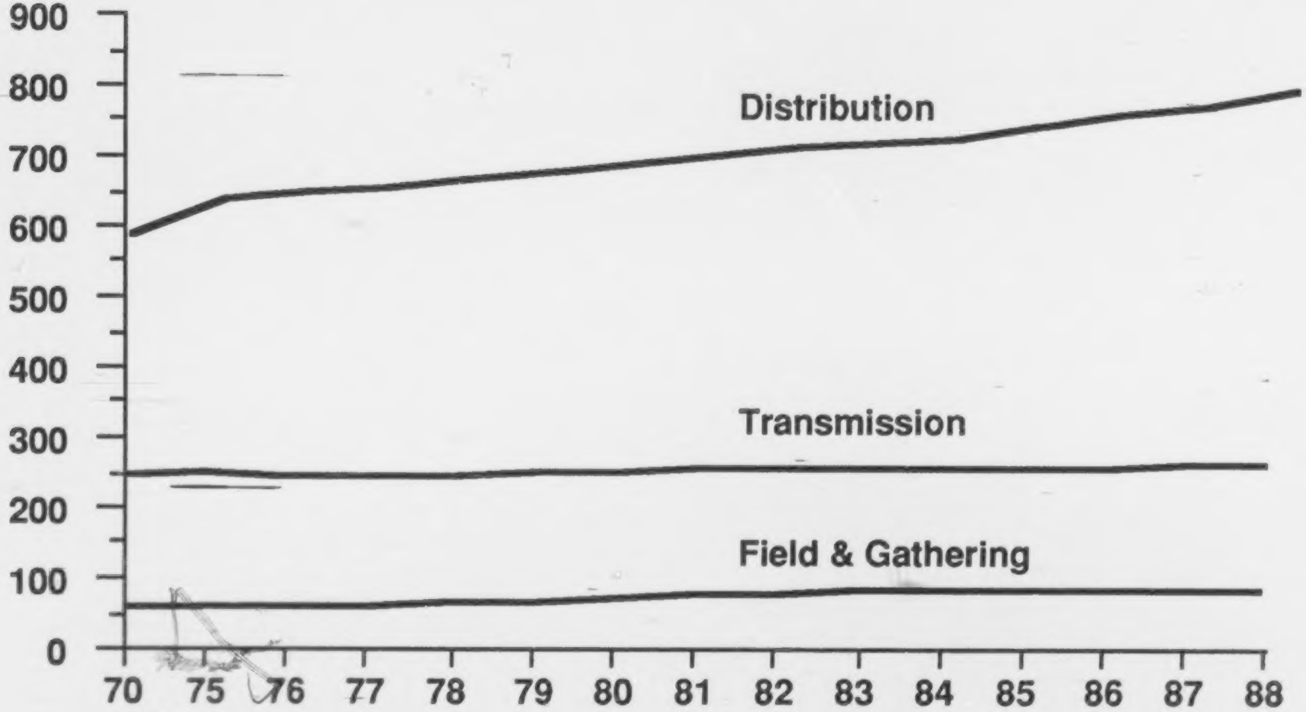
	1988	% Change 88/87
Gas Utility Industry		
(Trillions of Btu)		
Total Sales	10,690.7	+ 1.4
Residential	4,691.8	+ 7.0
Commercial	2,303.5	+ 6.8
Industrial	3,535.2	− 8.1
Industrial Only	2,204.2	− 5.8
Electric Generation	1,331.0	−11.8
Other	160.2	+ 3.6
Resale	6,183.9	− 4.8

NOTE: Part of the decline in Gas Utility Sales are due to the continued increase of activity in spot market sales and the resulting transportation of gas to end-users. For volumes of gas transported to end-users (and therefore not sold by gas utilities) see Table 3-15.

CHART 5-1

GAS UTILITY INDUSTRY MILES OF PIPELINE AND MAIN

(THOUSANDS OF MILES)



REFERENCE: TABLE 5-1

SALES—QUANTITIES

TABLE 6-1
GAS UTILITY INDUSTRY SALES, BY CLASS OF SERVICE
1966-1988

(Trillions of Btu)

Year	Total	Residential	Commercial	Industrial[a]	Other[a]
1966	12,859.1	4,175.4	1,462.8	6,653.3	567.6
1967	13,488.3	4,365.3	1,577.6	7,014.3	531.1
1968	14,472.4	4,552.7	1,704.9	7,595.1	619.7
1969	15,391.6	4,820.4	1,878.1	8,135.8	557.3
1970	16,043.5	4,923.7	2,006.6	8,439.2	674.0
1971	16,685.7	5,040.1	2,155.5	8,645.5	844.7
1972	17,082.1	5,141.8	2,275.7	8,775.7	888.8
1973	16,479.9	4,993.6	2,280.8	8,370.8	834.7
1974	16,000.3	4,864.8	2,293.4	8,153.2	689.0
1975	14,862.9	4,991.0	2,386.8	6,837.1	648.0
1976	14,813.5	5,014.2	2,422.6	7,192.0	184.6
1977	14,340.9	4,946.3	2,409.4	6,796.4	188.9
1978	14,748.4	5,106.7	2,499.5	6,931.5	210.7
1979	15,440.3	5,083.1	2,485.8	7,641.4	230.0
1980	15,413.2	4,826.1	2,453.4	7,965.9	167.7
1981	15,374.8	4,609.7	2,375.4	8,239.3	150.4
1982	14,182.7	4,769.8	2,471.3	6,794.3	147.3
1983	12,857.5	4,449.6	2,298.2	5,969.4	140.2
1984	13,161.7	4,628.3	2,396.0	5,991.0	146.4
1985	12,615.2	4,513.0	2,338.0	5,634.7	129.5
1986	11,125.1	4,380.8	2,238.9	4,338.2	167.2
1987 R	10,543.4	4,385.0	2,155.9	3,847.9	154.6
1988	10,690.7	4,691.8	2,303.5	3,535.2	160.2

[a] Prior to 1976, "Other" electric generation (see Table 6-13) is included in the "Other" class of service. For 1976 and beyond all electric generation is included in the Industrial category.

R–Revised.

TABLE 6-2
GAS UTILITY INDUSTRY SALES, BY CLASS OF SERVICE AND TYPE OF COMPANY
1982-1988[a]

(Trillions of Btu)

	1982	1983	1984	1985	1986	1987[R]	1988
Distribution							
Total	**2,981**	**2,925**	**3,078**	**3,803**	**3,439**	**3,251**	**3,278**
Residential	1,259	1,282	1,358	1,696	1,632	1,621	1,748
Commercial	771	727	780	948	906	871	890
Industrial	938	897	919	1,131	874	732	614
Other	13	20	21	28	27	27	26
Transmission							
Total	**2,087**	**1,826**	**1,711**	**1,708**	**1,496**	**1,408**	**1,264**
Residential	1	1	1	1	1	1	2
Commercial	7	3	4	3	5	3	12
Industrial	2,055	1,806	1,687	1,689	1,437	1,375	1,220
Other	24	17	20	15	53	29	30
Integrated							
Total	**4,910**	**4,203**	**4,290**	**2,922**	**2,396**	**2,209**	**2,257**
Residential	1,799	1,560	1,626	1,086	1,025	1,052	1,098
Commercial	804	739	782	522	469	454	492
Industrial	2,254	1,864	1,841	1,294	873	665	621
Other	53	40	41	20	29	38	46
Combination							
Total	**3,543**	**3,268**	**3,419**	**3,578**	**3,234**	**3,102**	**3,285**
Residential	1,426	1,335	1,358	1,464	1,458	1,445	1,563
Commercial	755	703	690	728	724	690	769
Industrial	1,325	1,192	1,331	1,339	1,009	925	912
Other	38	39	39	47	43	42	41
Municipals							
Total	**662**	**635**	**664**	**605**	**561**	**573**	**607**
Residential	285	271	286	266	264	265	281
Commercial	134	126	141	137	136	138	141
Industrial	224	212	213	182	145	152	168
Other	20	25	25	20	16	18	17

a. All electric generation is included in the Industrial category.

R–Revised.

Note: This table depicts total sales as shown on Table 6-1, by company type. Also, data by company type not directly comparable from year to year due to acquisitions and mergers. See page ix.

TABLE 6-3
GAS UTILITY INDUSTRY SALES, BY QUARTER AND CLASS OF SERVICE
1970-1988

(Trillions of Btu)

Year and Quarter	Total	Residential	Commercial	Industrial[a]	Other[a]
1970					
First	5,262.3	2,286.9	867.7	1,939.2	168.6
Second	3,808.1	1,024.3	423.8	2,201.4	158.4
Third	3,041.5	420.7	218.6	2,236.1	166.0
Fourth	3,931.6	1,191.8	496.5	2,062.5	181.0
1975					
First	4,931.5	2,192.8	970.4	1,598.7	169.6
Second	3,520.9	1,137.7	536.3	1,715.9	131.0
Third	2,794.9	474.9	301.2	1,842.2	176.6
Fourth	3,615.6	1,185.6	579.0	1,680.2	170.8
1980					
First	5,434.3	2,218.9	1,031.1	2,121.8	62.5
Second	3,258.5	914.7	464.5	1,845.7	33.6
Third	2,753.3	405.3	300.1	2,021.5	26.4
Fourth	3,967.1	1,287.3	657.7	1,974.9	47.2
1981					
First	5,312.2	2,171.2	1,007.5	2,075.9	57.6
Second	3,384.9	797.4	430.3	2,127.2	30.0
Third	2,792.9	399.5	293.6	2,076.9	22.9
Fourth	3,884.8	1,241.6	644.0	1,959.3	39.9
1982					
First	5,350.7	2,318.2	1,086.6	1,888.2	57.7
Second	3,020.3	880.9	465.1	1,645.6	28.7
Third	2,416.1	404.4	297.2	1,692.4	22.1
Fourth	3,395.6	1,166.3	622.4	1,568.1	38.8
1983					
First	4,439.2	1,917.5	921.9	1,547.0	52.8
Second	2,835.9	935.1	477.3	1,393.3	30.2
Third	2,220.5	382.2	277.4	1,540.6	20.3
Fourth	3,361.9	1,214.9	621.6	1,488.5	36.9
1984					
First	4,918.2	2,199.7	1,050.1	1,608.3	60.1
Second	2,821.1	882.5	464.2	1,446.0	28.4
Third	2,182.9	383.7	276.5	1,504.2	18.5
Fourth	3,239.5	1,162.4	605.2	1,432.5	39.4
1985					
First	4,761.7	2,161.7	1,030.7	1,515.3	54.0
Second	2,441.2	740.5	399.9	1,277.0	23.8
Third	2,081.9	381.9	269.2	1,413.9	16.9
Fourth	3,330.4	1,228.9	638.2	1,428.5	34.8
1986					
First	4,306.9	2,038.9	973.3	1,240.9	53.8
Second	2,203.9	729.9	384.5	1,050.5	39.0
Third	1,714.2	384.1	260.0	1,041.2	28.9
Fourth	2,900.1	1,227.9	621.1	1,005.6	45.5
1987[R]					
First	3,971.2	2,010.9	919.1	986.8	54.4
Second	2,076.8	749.8	380.3	918.0	28.7
Third	1,636.6	377.2	249.9	983.0	26.5
Fourth	2,858.8	1,247.1	606.6	960.1	45.0
1988					
First	4,269.3	2,224.5	1,014.8	967.0	63.0
Second	1,947.7	774.1	398.3	747.4	27.9
Third	1,672.3	374.4	256.1	1,023.4	18.4
Fourth	2,801.4	1,318.8	634.3	797.4	50.9

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[a] Prior to 1976, "Other" electric generation (see Table 6-13) is included in the "Other" class of service. For 1976 and beyond all electric generation is included in the Industrial category.

R - Revised.

TABLE 6-5
GAS UTILITY INDUSTRY SALES, BY STATE, 1970-1988[a]

(Trillions of Btu)

Division and State	1970	1975	1980	1985	1986	1987[R]	1988
United States	**16,043.5**	**14,862.9**	**15,413.2**	**12,615.2**	**11,125.1**	**10,543.4**	**10,690.7**
New England	**236.7**	**243.5**	**298.2**	**348.5**	**315.1**	**369.9**	**358.8**
Connecticut	61.4	61.0	73.4	78.6	79.1	86.8	87.9
Maine	1.8	2.0	2.2	2.6	2.5	2.7	3.2
Massachusetts	139.5	145.9	182.5	220.9	190.0	230.6	217.6
New Hampshire	6.7	7.8	9.5	10.6	10.8	11.9	13.0
Rhode Island	25.2	23.4	26.4	30.6	27.5	32.4	31.2
Vermont	2.1	3.4	4.1	5.2	5.2	5.4	5.8
Middle Atlantic	**1,651.0**	**1,495.1**	**1,658.2**	**1,499.9**	**1,414.5**	**1,392.6**	**1,431.0**
New Jersey	294.9	257.9	322.7	334.8	329.3	351.9	364.5
New York	595.9	581.9	600.8	639.1	588.6	568.1	575.5
Pennsylvania	760.2	655.4	734.7	526.0	496.6	472.6	491.0
East North Central	**3,896.4**	**3,749.5**	**3,658.1**	**2,897.2**	**2,614.6**	**2,164.3**	**2,314.8**
Illinois	1,140.3	1,112.4	1,100.3	900.9	870.7	696.0	728.0
Indiana	505.0	458.8	475.9	399.0	336.6	267.0	276.5
Michigan	839.4	885.8	850.0	667.6	571.2	476.0	518.6
Ohio	1,084.9	929.8	888.0	624.7	577.3	521.2	561.0
Wisconsin	326.8	362.7	343.9	305.0	258.8	204.1	230.7
West North Central	**1,743.7**	**1,592.4**	**1,412.3**	**1,144.0**	**1,034.2**	**896.2**	**943.8**
Iowa	292.5	298.8	255.8	216.9	199.3	160.1	167.5
Kansas	459.5	410.4	364.6	248.7	210.8	168.5	162.4
Minnesota	324.3	295.0	267.1	250.8	234.8	216.3	237.6
Missouri	421.0	344.5	326.8	256.2	242.2	222.4	230.6
Nebraska	197.8	187.2	152.5	124.0	103.3	91.2	102.2
North Dakota	18.9	24.7	21.6	22.6	20.8	18.2	20.9
South Dakota	29.7	31.8	23.9	24.8	23.0	19.6	22.5
South Atlantic	**1,311.1**	**1,106.1**	**1,255.7**	**1,095.0**	**1,072.0**	**1,101.5**	**1,071.5**
Delaware	24.3	19.3	22.7	22.6	22.2	21.3	22.0
District of Columbia	27.1	24.8	27.6	28.0	29.8	31.0	32.6
Florida	218.7	127.4	232.2	232.9	239.8	256.2	248.6
Georgia	333.8	312.5	299.7	270.5	237.3	231.9	222.5
Maryland	145.1	138.8	154.6	118.5	122.5	126.1	128.9
North Carolina	151.2	104.8	143.2	125.3	130.4	134.4	131.1
South Carolina	120.1	118.3	112.3	94.5	93.2	100.5	93.2
Virginia	133.9	116.0	134.8	124.3	124.7	123.7	127.9
West Virginia	156.9	144.3	128.6	78.4	72.1	76.4	64.7
East South Central	**995.4**	**752.8**	**808.0**	**625.3**	**523.3**	**477.5**	**508.7**
Alabama	290.0	227.9	224.6	179.2	155.3	129.1	138.6
Kentucky	189.9	180.0	175.9	141.7	119.7	111.5	121.2
Mississippi	265.6	141.3	191.5	140.9	103.3	83.8	83.4
Tennessee	249.9	203.5	216.1	163.5	145.0	153.1	165.6
West South Central	**3,031.0**	**2,973.6**	**3,534.9**	**2,330.4**	**2,042.1**	**1,950.7**	**1,878.1**
Arkansas	339.9	219.4	207.4	142.9	111.6	90.8	118.5
Louisiana	742.1	457.3	515.2	285.2	207.3	256.5	204.0
Oklahoma	275.6	417.9	472.3	263.4	157.7	151.7	171.1
Texas	1,673.4	1,878.9	2,340.0	1,638.9	1,565.5	1,451.7	1,384.5
Mountain	**926.1**	**928.6**	**841.9**	**655.4**	**507.4**	**487.7**	**495.6**
Arizona	168.1	144.4	136.4	119.4	71.3	72.6	70.4
Colorado	253.6	269.2	242.3	191.6	165.0	165.1	173.4
Idaho	43.1	51.2	45.4	33.0	20.9	21.5	17.3
Montana	78.8	79.8	54.1	44.0	37.3	34.7	39.0
Nevada	56.0	61.3	62.1	41.5	31.7	31.4	35.3
New Mexico	135.6	142.5	125.7	74.7	59.8	58.6	55.0
Utah	119.1	119.4	121.7	113.2	91.6	80.6	80.8
Wyoming	71.8	60.8	54.3	38.0	29.8	23.3	24.4
Pacific	**2,252.1**	**2,021.3**	**1,945.9**	**2,019.5**	**1,601.9**	**1,703.0**	**1,688.3**
Alaska	16.6	30.7	32.3	42.6	42.3	39.9	40.3
California	1,986.8	1,735.6	1,700.0	1,762.9	1,375.7	1,465.8	1,466.8
Hawaii	2.8	3.6	3.5	3.1	3.1	3.2	3.3
Oregon	88.1	86.8	76.4	77.2	63.5	68.7	54.1
Washington	157.8	164.6	133.8	133.7	117.3	125.3	123.8

a. Excludes sales for resale.
R–Revised.

TABLE 6-6
GAS UTILITY INDUSTRY SALES OF GAS FOR RESALE, BY STATE
1970-1988

(Trillions of Btu)

Division and State	1970	1975	1980	1985	1986	1987	1988
United States	**17,575.6**	**14,504.5**	**15,705.1**	**10,408.1**	**7,611.2**	**6,497.2**	**6,183.9**
New England	**276.0**	**271.5**	**299.8**	**291.8**	**262.9**	**313.1**	**232.4**
Connecticut	83.0	82.7	76.4	67.2	62.3	68.6	59.4
Maine	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Massachusetts	156.6	160.0	188.8	188.1	164.4	169.8	143.0
New Hampshire	8.6	5.8	6.8	7.6	7.5	46.4	5.4
Rhode Island	27.8	21.8	27.9	28.9	28.7	28.3	24.6
Vermont	0.0	1.3	0.0	0.0	0.0	0.0	0.0
Middle Atlantic	**2,433.3**	**1,901.6**	**2,334.0**	**1,671.4**	**1,305.9**	**1,233.6**	**1,117.9**
New Jersey	491.9	370.2	510.6	404.7	356.0	380.7	332.2
New York	802.5	572.2	707.5	566.3	385.6	362.7	283.6
Pennsylvania	1,138.9	959.2	1,115.9	700.4	564.3	490.2	502.1
East North Central	**5,249.0**	**4,542.8**	**4,442.0**	**2,945.1**	**2,054.0**	**1,308.6**	**1,535.5**
Illinois	1,688.6	1,537.1	1,613.3	1,147.1	788.9	423.3	573.8
Indiana	513.6	406.8	461.4	325.8	336.6	245.0	213.2
Michigan	698.5	759.4	615.8	329.7	141.0	79.0	153.7
Ohio	1,892.4	1,356.1	1,315.3	774.8	522.4	409.8	461.8
Wisconsin	455.9	483.4	436.1	367.7	265.1	151.5	133.0
West North Central	**1,306.9**	**1,144.5**	**1,043.9**	**903.9**	**841.2**	**675.4**	**620.2**
Iowa	271.0	259.7	208.9	160.8	147.0	89.4	95.0
Kansas	206.4	169.7	149.4	127.6	110.6	95.9	80.8
Minnesota	272.6	239.0	239.1	225.6	277.4	184.1	151.9
Missouri	405.2	338.0	337.8	275.0	249.8	211.9	199.2
Nebraska	124.7	111.7	86.4	73.1	68.0	61.8	58.6
North Dakota	5.2	5.5	4.9	17.4	16.4	13.8	15.4
South Dakota	21.8	20.8	17.5	24.4	22.0	18.5	19.3
South Atlantic	**1,981.1**	**1,372.5**	**1,470.3**	**893.7**	**694.5**	**563.5**	**524.1**
Delaware	1.1	1.2	1.2	1.8	1.6	1.1	1.2
District of Columbia	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Florida	63.4	82.7	94.7	91.8	85.9	97.3	93.9
Georgia	327.0	315.5	308.7	257.7	179.0	128.6	116.5
Maryland	183.1	151.0	184.5	110.1	98.8	75.0	62.5
North Carolina	157.9	118.5	165.8	124.7	89.0	101.4	66.3
South Carolina	166.5	127.6	135.2	83.9	62.8	57.3	49.1
Virginia	218.3	181.9	209.1	155.4	140.6	72.6	68.8
West Virginia	863.8	394.1	371.2	68.3	36.8	30.2	65.8
East South Central	**1,573.5**	**1,178.0**	**1,256.5**	**745.6**	**566.5**	**450.5**	**469.1**
Alabama	237.0	219.3	219.8	168.0	104.3	67.0	69.8
Kentucky	417.6	238.4	237.3	157.8	107.2	94.0	103.4
Mississippi	349.3	263.1	289.1	127.1	73.4	51.1	39.6
Tennessee	569.6	457.3	510.3	292.7	281.6	238.4	256.3
West South Central	**1,497.3**	**1,215.9**	**2,007.4**	**818.9**	**548.4**	**631.3**	**621.7**
Arkansas	22.6	16.1	16.0	12.9	11.9	29.1	12.8
Louisiana	854.6	569.2	661.9	268.5	138.1	125.5	115.0
Oklahoma	166.6	148.6	206.2	61.4	29.6	29.4	19.2
Texas	453.6	482.1	1,123.3	476.1	368.8	447.3	474.7
Mountain	**2,021.0**	**1,901.8**	**1,871.0**	**1,490.5**	**836.8**	**683.8**	**516.6**
Arizona	1,477.8	1,341.0	1,370.5	1,062.6	512.6	377.7	270.2
Colorado	249.0	279.6	261.8	194.8	161.1	155.5	126.7
Idaho	73.0	84.2	66.7	50.2	32.9	35.9	13.2
Montana	7.5	7.7	7.6	17.6	14.4	13.1	13.9
Nevada	5.8	9.5	9.9	10.3	9.3	10.3	10.6
New Mexico	104.9	71.8	58.6	37.8	12.8	12.1	10.1
Utah	21.3	7.4	8.4	75.8	66.8	59.5	56.3
Wyoming	81.6	100.6	87.5	41.4	26.9	19.7	15.6
Pacific	**1,237.6**	**975.9**	**980.1**	**647.2**	**501.0**	**637.4**	**546.4**
Alaska	0.0	0.0	27.4	0.0	0.0	0.0	0.0
California	680.5	346.5	436.5	145.0	121.6	145.6	95.3
Hawaii	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Oregon	399.9	470.2	388.3	372.9	290.4	411.9	394.6
Washington	157.2	159.1	127.8	129.3	89.0	79.9	56.5

TABLE 6-7
GAS UTILITY INDUSTRY SALES, BY STATE AND CLASS OF SERVICE, 1988

(Trillions of Btu)

		Class of Service					
Division and State	Total	Residential	Commercial	Industrial	Electric Generation	Other	Average Btu Value
United States	**10,690.7**	**4,691.8**	**2,303.5**	**2,204.2**	**1,331.0**	**160.2**	**1,026.8**
New England	**358.8**	**170.4**	**100.5**	**64.3**	**20.4**	**3.1**	**1,027.9**
Connecticut	87.9	40.6	27.6	19.6	a	0.1	1,032.3
Maine	3.2	0.6	1.5	1.2	0.0	0.0	1,039.0
Massachusetts	217.6	103.2	58.4	34.5	18.8	2.6	1,027.8
New Hampshire	13.0	6.0	4.9	2.0	0.1	0.1	1,018.1
Rhode Island	31.2	17.9	6.1	5.3	1.6	0.3	1,025.7
Vermont	5.8	2.1	2.0	1.7	0.0	a	990.9
Middle Atlantic	**1,431.0**	**821.1**	**334.4**	**213.4**	**28.0**	**34.1**	**1,031.8**
New Jersey	364.5	186.7	104.5	53.5	19.7	0.2	1,047.7
New York	575.5	359.9	122.8	60.7	7.5	24.6	1,021.4
Pennsylvania	491.0	274.5	107.1	99.2	0.9	9.3	1,032.3
East North Central	**2,314.8**	**1,464.0**	**555.9**	**278.9**	**5.6**	**10.4**	**1,023.4**
Illinois	728.0	463.1	168.0	94.4	2.4	0.2	1,019.5
Indiana	276.5	155.0	66.8	52.7	0.3	1.7	1,001.7
Michigan	518.6	359.2	122.5	35.7	1.0	0.2	1,032.7
Ohio	561.0	364.4	136.0	52.5	0.8	7.2	1,037.1
Wisconsin	230.7	122.3	62.6	43.6	1.1	1.1	1,008.3
West North Central	**943.8**	**459.1**	**291.7**	**176.3**	**11.0**	**5.7**	**1,000.8**
Iowa	167.5	77.6	44.9	43.1	1.7	0.3	1,007.9
Kansas	162.4	75.9	54.7	24.8	4.6	2.5	985.9
Minnesota	237.6	111.4	66.5	57.9	1.2	0.7	999.5
Missouri	230.6	129.1	72.6	25.0	1.7	2.2	1,010.5
Nebraska	102.2	44.5	35.5	20.2	1.8	0.2	977.9
North Dakota	20.9	9.7	10.1	1.0	a	a	1,055.2
South Dakota	22.5	10.8	7.4	4.3	0.1	0.0	1,014.8
South Atlantic	**1,071.5**	**364.9**	**248.9**	**305.3**	**147.3**	**5.1**	**1,030.8**
Delaware	22.0	7.8	4.2	9.0	1.1	a	1,031.4
District of Columbia	32.6	13.2	19.4	0.0	0.0	0.0	1,022.0
Florida	248.6	15.4	34.6	55.3	141.4	1.9	1,028.5
Georgia	222.5	103.0	51.6	65.9	1.6	0.4	1,025.9
Maryland	128.9	70.9	33.0	23.1	1.8	0.1	1,032.5
North Carolina	131.1	39.2	29.0	61.8	0.1	0.9	1,030.5
South Carolina	93.2	21.1	17.7	54.2	0.1	0.2	1,026.7
Virginia	127.9	53.4	43.3	29.6	0.0	1.6	1,028.9
West Virginia	64.7	40.9	16.1	6.4	1.2	0.1	1,068.8
East South Central	**508.7**	**191.6**	**116.2**	**186.6**	**1.6**	**12.7**	**1,031.5**
Alabama	138.6	49.9	26.9	60.2	1.1	0.5	1,028.9
Kentucky	121.2	66.4	29.5	20.1	0.0	5.2	1,030.5
Mississippi	83.4	27.3	13.8	37.6	0.2	4.5	1,028.6
Tennessee	165.6	48.0	46.0	68.7	0.3	2.5	1,035.7
West South Central	**1,878.1**	**390.5**	**213.4**	**604.6**	**592.4**	**77.1**	**1,038.7**
Arkansas	118.5	43.4	26.0	21.3	27.4	0.3	1,008.9
Louisiana	204.0	60.7	22.6	56.2	33.1	31.5	1,039.2
Oklahoma	171.1	73.2	35.6	60.2	1.4	0.6	1,027.3
Texas	1,384.5	213.2	129.2	466.9	530.5	44.7	1,042.6
Mountain	**495.6**	**251.3**	**164.3**	**57.0**	**13.6**	**9.4**	**1,015.4**
Arizona	70.4	29.0	25.7	9.7	4.2	1.8	1,036.1
Colorado	173.4	93.4	64.7	11.7	3.3	0.4	1,003.5
Idaho	17.3	7.7	6.1	3.5	0.0	0.0	1,021.3
Montana	39.0	18.4	11.8	7.5	a	1.3	1,025.0
Nevada	35.3	15.3	13.8	2.1	3.9	0.2	990.5
New Mexico	55.0	29.9	14.2	3.3	1.9	5.7	1,060.8
Utah	80.8	45.8	19.4	15.5	0.1	a	1,000.0
Wyoming	24.4	11.9	8.6	3.7	0.2	a	1,007.7
Pacific	**1,688.3**	**578.9**	**278.1**	**317.8**	**511.0**	**2.5**	**1,027.8**
Alaska	40.3	12.3	10.9	0.4	16.7	0.0	1,000.0
California	1,466.8	509.5	210.2	250.5	494.3	2.2	1,028.3
Hawaii	3.3	0.6	1.6	1.1	0.0	0.0	1,068.0
Oregon	54.1	21.5	18.3	14.3	0.0	0.0	1,022.7
Washington	123.8	34.9	37.1	51.5	a	0.4	1,031.3

a. Less than 0.05 trillion Btu.

Note: See explanation on page 67 about transportation volumes.

TABLE 6-8
GAS UTILITY INDUSTRY FIRM AND INTERRUPTIBLE GAS SALES BY STATE, 1988

(Trillions of Btu)

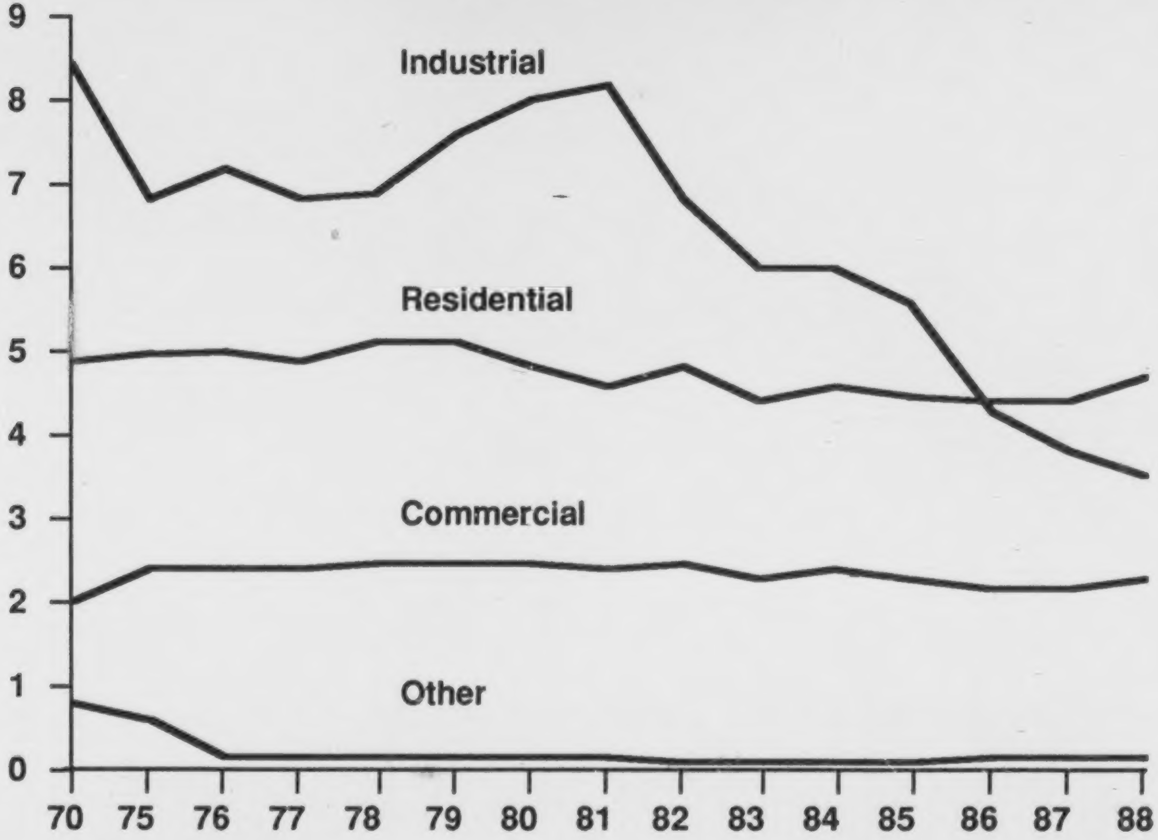
Division and State	Commercial			Industrial[a]		
	Total	Firm	Interruptible	Total	Firm	Interruptible
United States	**2,303.5**	**2,140.4**	**163.1**	**2,204.2**	**971.9**	**1,232.3**
New England	**100.5**	**85.0**	**15.5**	**64.3**	**30.7**	**33.6**
Connecticut	27.6	19.4	8.2	19.6	9.0	10.5
Maine	1.5	1.3	0.2	1.2	0.9	0.3
Massachusetts	58.4	51.4	7.0	34.5	17.5	17.1
New Hampshire	4.9	4.8	b	2.0	0.9	1.1
Rhode Island	6.1	6.1	0.0	5.3	2.4	2.9
Vermont	2.0	2.0	0.0	1.7	0.0	1.7
Middle Atlantic	**334.4**	**308.1**	**26.3**	**213.4**	**124.4**	**89.0**
New Jersey	104.5	88.5	16.0	53.5	23.4	30.0
New York	122.8	119.2	3.6	60.7	40.8	19.9
Pennsylvania	107.1	100.4	6.7	99.2	60.2	39.1
East North Central	**555.9**	**541.5**	**14.4**	**278.9**	**225.7**	**53.2**
Illinois	168.0	166.6	1.4	94.4	74.9	19.5
Indiana	66.8	63.5	3.2	52.7	37.2	15.5
Michigan	122.5	122.5	b	35.7	31.8	3.9
Ohio	136.0	135.2	0.9	52.5	47.2	5.3
Wisconsin	62.6	53.7	8.9	43.6	34.6	9.0
West North Central	**291.7**	**256.1**	**35.6**	**176.3**	**83.2**	**93.1**
Iowa	44.9	38.0	6.9	43.1	27.9	15.2
Kansas	54.7	44.8	9.9	24.8	12.6	12.1
Minnesota	66.5	58.9	7.6	57.9	12.1	45.8
Missouri	72.6	67.9	4.7	25.0	19.8	5.3
Nebraska	35.5	32.2	3.2	20.2	8.9	11.3
North Dakota	10.1	7.7	2.5	1.0	0.2	0.8
South Dakota	7.4	6.6	0.8	4.3	1.7	2.6
South Atlantic	**248.9**	**212.9**	**36.0**	**305.3**	**112.3**	**193.0**
Delaware	4.2	4.1	0.1	9.0	5.9	3.1
District of Columbia	19.4	10.9	8.5	0.0	0.0	0.0
Florida	34.6	31.5	3.1	55.3	6.7	48.6
Georgia	51.6	50.9	0.7	65.9	17.6	48.4
Maryland	33.0	23.9	9.2	23.1	15.8	7.3
North Carolina	29.0	27.8	1.2	61.8	29.5	32.3
South Carolina	17.7	13.4	4.3	54.2	21.0	33.2
Virginia	43.3	35.5	7.8	29.6	13.8	15.8
West Virginia	16.1	14.9	1.1	6.4	2.0	4.3
East South Central	**116.2**	**108.5**	**7.7**	**186.6**	**117.6**	**69.0**
Alabama	26.9	23.8	3.1	60.2	29.5	30.7
Kentucky	29.5	28.9	0.6	20.1	13.9	6.2
Mississippi	13.8	13.8	b	37.6	34.6	3.0
Tennessee	46.0	42.0	4.0	68.7	39.6	29.1
West South Central	**213.4**	**211.4**	**2.0**	**604.6**	**217.7**	**386.9**
Arkansas	26.0	26.0	b	21.3	9.0	12.3
Louisiana	22.6	22.4	0.1	56.2	40.1	16.1
Oklahoma	35.6	34.9	0.7	60.2	33.6	26.6
Texas	129.2	128.1	1.2	466.9	135.0	331.9
Mountain	**164.3**	**163.2**	**1.1**	**57.0**	**36.4**	**20.6**
Arizona	25.7	25.4	0.3	9.7	9.5	0.2
Colorado	64.7	64.4	0.3	11.7	8.1	3.6
Idaho	6.1	6.1	0.0	3.5	3.4	0.1
Montana	11.8	11.7	0.1	7.5	1.1	6.4
Nevada	13.8	13.8	0.0	2.1	2.1	0.0
New Mexico	14.2	13.9	0.3	3.3	3.2	0.1
Utah	19.4	19.4	0.0	15.5	6.7	8.8
Wyoming	8.6	8.5	0.1	3.7	2.3	1.4
Pacific	**278.1**	**253.6**	**24.5**	**317.8**	**23.9**	**293.9**
Alaska	10.9	10.9	0.0	0.4	0.0	0.4
California	210.2	198.8	11.4	250.5	4.6	245.9
Hawaii	1.6	1.3	0.3	1.1	1.1	0.0
Oregon	18.3	18.2	0.1	14.3	5.2	9.1
Washington	37.1	24.4	12.7	51.5	13.0	38.5

a. Does not include electric generation. See Table 6-13.
b. Less than 0.05 trillion Btu.

CHART 6-1

GAS UTILITY SALES BY CLASS OF SERVICE

(QUADRILLIONS OF BTU)

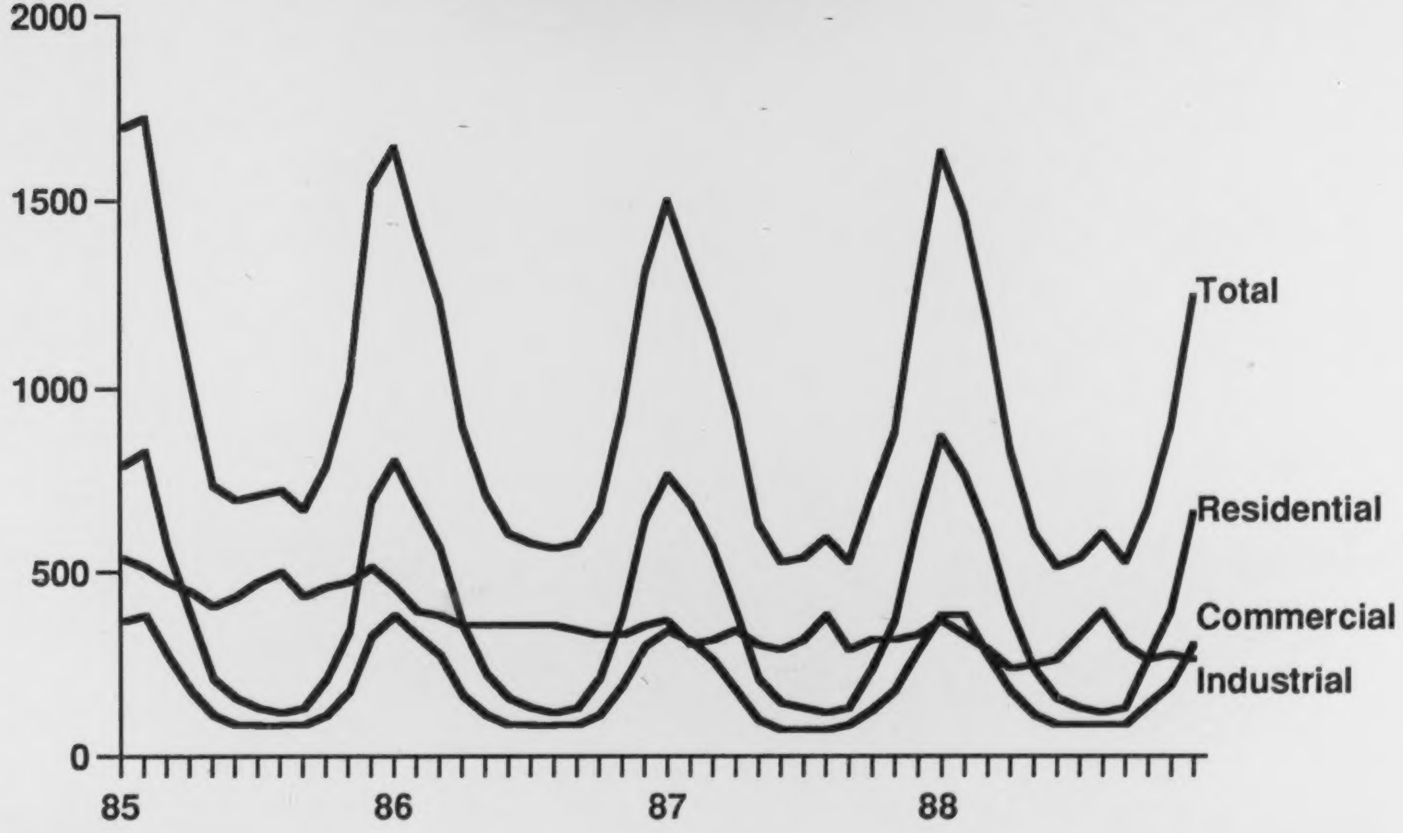


REFERENCE: TABLE 6-1

CHART 6-2

UTILITY SALES OF NATURAL GAS TO CONSUMERS BY MONTH, 1985 - 1988

(TRILLIONS OF BTU)



REFERENCE: TABLE 6-4

TABLE 6-4
GAS UTILITY INDUSTRY TOTAL SALES, BY MONTH, 1970-1988

(Trillions of Btu)

Year	January	February	March	April	May	June	July	August	September	October	November	December	Total
1970	1,865.8	1,733.0	1,663.0	1,527.7	1,225.7	1,054.3	1,013.5	1,020.2	1,007.5	1,081.1	1,283.7	1,566.4	16,041.9
1971	1,886.8	1,873.5	1,769.5	1,559.1	1,312.2	1,145.2	1,053.3	1,037.4	1,023.7	1,100.9	1,305.7	1,618.4	16,685.7
1972	1,833.1	1,908.1	1,758.3	1,542.6	1,292.5	1,176.1	1,056.1	1,125.9	1,094.5	1,120.0	1,378.7	1,796.2	17,082.1
1973	1,909.4	1,752.8	1,645.3	1,500.1	1,332.1	1,143.8	1,104.8	1,069.0	1,063.1	1,136.5	1,306.7	1,516.3	16,479.9
1974	1,847.6	1,707.2	1,630.7	1,493.6	1,251.6	1,119.9	1,050.8	1,034.9	992.3	1,115.2	1,219.8	1,536.7	16,000.3
1975	1,709.5	1,633.6	1,588.4	1,455.3	1,120.8	944.8	924.7	934.8	935.4	1,009.2	1,102.8	1,503.6	14,862.9
1976	1,797.5	1,644.6	1,451.0	1,252.2	1,099.8	965.6	913.1	900.8	899.1	996.4	1,278.3	1,614.7	14,813.5
1977	1,901.9	1,682.7	1,425.7	1,168.4	974.8	904.5	875.8	866.5	860.7	976.7	1,153.5	1,549.8	14,340.9
1978	1,808.7	1,834.1	1,647.5	1,237.7	1,061.4	921.4	895.1	878.8	839.6	947.7	1,151.1	1,525.5	14,748.4
1979	1,925.1	1,923.8	1,630.5	1,356.3	1,074.6	934.9	903.7	920.9	891.3	1,038.9	1,253.4	1,587.0	15,440.4
1980	1,834.6	1,871.4	1,728.3	1,315.2	1,024.3	919.0	928.2	918.9	906.2	1,024.5	1,287.0	1,655.6	15,413.2
1981	1,957.1	1,759.8	1,595.3	1,274.3	1,107.4	1,003.2	957.9	933.2	901.8	1,044.8	1,235.1	1,604.9	15,374.8
1982	1,964.4	1,831.3	1,555.0	1,288.9	911.8	819.6	816.7	823.6	775.8	864.7	1,117.5	1,413.4	14,182.7
1983	1,619.9	1,513.6	1,305.7	1,189.1	906.1	740.7	728.5	762.7	729.3	809.6	1,029.7	1,522.6	12,857.5
1984	1,907.9	1,532.8	1,477.5	1,172.3	912.8	736.0	739.9	736.2	706.8	812.5	1,054.5	1,372.5	13,161.7
1985	1,705.5	1,729.3	1,326.9	1,013.5	736.4	691.3	699.9	716.0	666.0	784.5	1,001.6	1,544.3	12,615.2
1986	1,649.9	1,428.7	1,228.3	892.5	709.4	602.0	574.2	568.4	571.6	663.4	926.2	1,310.5	11,125.1
1987[R]	1,499.2	1,316.5	1,155.5	926.0	630.5	520.3	531.6	586.2	518.8	704.2	878.4	1,276.2	10,543.4
1988	1,631.3	1,461.0	1,177.0	829.2	605.7	512.8	542.3	603.2	526.8	670.4	888.5	1,242.5	10,690.7

R–Revised.

TABLE 6-9
GAS UTILITY INDUSTRY SALES
BY TYPE OF INDUSTRY CLASSIFICATION, 1970–1987

(Trillions of Btu)

Industry Classification	1970	1975	1980	1985	1986	1987
Agriculture, forestry and fisheries	33.0	49.7	47.1	46.5	36.5	18.4
Petroleum and natural gas production	101.0	83.8	32.2	45.6	28.5	35.4
Other mining	59.8	49.3	55.6	27.7	19.9	5.8
Electric services[a]	2,588.6	1,685.2	2,520.5	2,327.1	1,769.0	1,908.4
Other transportation, communications, and public utilities	96.2	95.9	92.5	94.3	75.1	62.8
Hotels, rooming houses, camps	67.3	77.8	27.8	34.3	37.2	32.2
Laundries, cleaning and dyeing	21.5	24.3	22.0	28.5	30.7	24.8
Other services	175.1	236.7	309.5	372.5	355.5	277.1
Other non-manufacturing	198.6	187.5	151.8	288.7	316.2	270.9
Ordnance	35.4	b	b	b	b	b
Food and kindred products	130.5	338.9	320.2	252.5	196.8	125.1
Textile products, apparel, fabrics, etc.	72.5	54.6	64.3	57.4	58.1	57.9
Furniture, lumber, and other wood products	64.9	61.1	45.7	36.7	28.2	24.3
Paper and allied products	402.7	267.6	257.8	187.6	134.0	104.2
Carbon black	52.8	38.2	34.1	2.2	1.5	1.0
Chemicals and allied products (except carbon black)	880.7	886.5	603.8	35.6	355.8	173.5
Petroleum refining	639.6	514.5	372.0	118.3	62.5	28.7
Rubber and miscellaneous plastic products	47.8	45.1	50.7	42.2	32.3	24.9
Glass products	208.8	173.7	170.9	93.7	76.8	43.3
Cement	195.0	158.1	49.2	8.3	5.7	3.3
Clay products, pottery, etc.	145.3	110.0	86.4	58.0	47.6	28.8
Other stone products and miscellaneous	82.3	97.0	85.5	48.9	41.6	25.2
Primary iron and steel industries	669.0	555.5	546.3	265.9	172.3	78.2
Primary non-ferrous industries	232.9	275.9	194.4	124.5	84.2	50.4
Fabricated metal products, machinery equipment and supplies	289.8	276.8	233.1	195.7	171.9	111.9
Transportation equipment	170.8	140.2	84.4	82.9	63.4	42.8
Other manufacturing	100.0	122.1	121.0	141.0	148.2	65.9
Public administration	c	72.1	70.0	91.9	91.2	82.7
Unclassified[d]	1,434.9	3,495.4	4,349.3	2,858.4	2,619.4	2,845.9
Total Gas Utility Industry Commercial, Industrial and "Other" sales[a,e]	**9,396.8**	**10,173.5**	**10,998.1**	**8,466.9**	**7,059.7**	**6554.0**
Total Commercial, Industrial and "Other" sales of co.'s reporting this table	**8,022.9**	**8,786.0**	**7,851.5**	**5,926.7**	**4,886.7**	**3,571.0**
Transfers[a]	**283.6**	**301.6**	**411.1**	**364.5**	**315.3**	**395.2**

a. Includes the quantities of gas for electric generation detailed as "Transfers" which are not included in Total Commercial, Industrial, and "Other" sales of companies reporting this table or in Total Gas Utility Industry sales. Such quantities represent transfers by the gas department to the electric department of combination gas and electric companies.

b. Classification eliminated.

c. New classification in 1972.

d. Difference between total and classified volumes.

e. Includes Industrial and "Other" sales only prior to 1971.

Note: Prior to 1982 only large volume sales detailed by SIC. After 1987, data collection reformatted. See Table 6-10.

TABLE 6-12

GAS CONSUMED FOR ELECTRIC GENERATION,[a] BY STATE, 1970-1988

(Millions of Cubic Feet)

Division and State	1970	1975	1980	1985	1986	1987^{R}	1988
United States	**3,931,860**	**3,146,874**	**3,681,595**	**3,044,083**	**2,602,370**	**2,844,051**	**2,633,712**
New England	**8,133**	**2,523**	**7,001**	**49,346**	**15,618**	**52,884**	**21,374**
Connecticut	147	344	0	1,559	740	7,350	1,260
Maine	0	0	0	0	0	0	0
Massachusetts	5,668	1,437	5,083	45,161	14,875	40,183	19,874
New Hampshire	0	177	0	67	0	15	55
Rhode Island	2,319	11	1,679	2,532	0	5,336	185
Vermont	0	555	239	95	3	0	0
Middle Atlantic	**161,385**	**23,436**	**206,769**	**235,563**	**171,181**	**250,458**	**202,648**
New Jersey	45,891	8,601	79,513	61,362	36,877	75,138	51,066
New York	106,141	13,613	124,391	172,631	133,580	173,328	148,186
Pennsylvania	9,354	1,213	2,865	1,570	724	1,993	3,397
East North Central	**278,143**	**118,394**	**65,883**	**19,141**	**20,487**	**18,288**	**27,851**
Illinois	132,382	34,176	19,165	5,881	6,067	3,172	5,706
Indiana	29,507	10,994	1,904	1,117	1,086	1,315	3,455
Michigan	64,270	47,151	26,368	10,126	10,945	10,754	14,991
Ohio	21,380	6,139	4,706	699	606	871	959
Wisconsin	30,604	19,935	13,740	1,317	1,783	2,176	2,739
West North Central	**420,086**	**264,825**	**143,387**	**27,333**	**21,066**	**28,241**	**33,227**
Iowa	77,910	46,929	6,835	2,100	1,365	3,265	5,228
Kansas	167,885	127,818	101,022	21,181	15,029	16,074	18,890
Minnesota	58,954	22,709	8,077	1,275	1,734	5,700	5,217
Missouri	62,970	26,320	15,329	1,466	1,182	1,379	1,622
Nebraska	47,641	37,659	11,850	1,284	1,713	1,743	2,046
North Dakota	362	157	15	2	2	3	2
South Dakota	4,364	3,232	259	26	41	77	223
South Atlantic	**343,408**	**199,105**	**191,409**	**177,934**	**182,994**	**199,769**	**169,039**
Delaware	3,744	1,697	6,999	7,266	1,796	7,847	2,824
District of Columbia	0	0	0	0	0	0	0
Florida	198,367	141,153	166,047	165,683	169,533	175,675	154,550
Georgia	58,674	40,282	3,666	885	5,803	826	1,573
Maryland	11,435	451	5,230	1,372	2,194	11,757	5,336
North Carolina	21,126	101	1,702	595	1,137	1,162	1,068
South Carolina	45,081	14,566	5,418	483	1,386	538	2,378
Virginia	4,276	496	2,285	1,528	847	1,724	1,096
West Virginia	705	358	62	122	298	239	214
East South Central	**140,940**	**37,774**	**99,461**	**55,779**	**49,104**	**42,930**	**36,467**
Alabama	15,444	5,994	1,382	1,078	1,054	1,474	2,511
Kentucky	8,533	272	1,902	1,121	437	336	452
Mississippi	99,710	31,507	95,073	53,579	47,613	41,119	33,279
Tennessee	17,253	0	1,104	0	0	0	225
West South Central	**1,735,541**	**2,042,085**	**2,243,820**	**1,694,726**	**1,600,352**	**1,516,669**	**1,492,295**
Arkansas	107,445	31,818	58,863	11,411	28,425	32,057	22,409
Louisiana	331,750	356,130	424,991	285,039	267,862	246,912	249,642
Oklahoma	234,721	300,848	329,940	200,686	197,239	187,895	177,222
Texas	1,061,625	1,353,290	1,430,026	1,197,590	1,106,826	1,049,804	1,043,022
Mountain	**198,745**	**164,636**	**175,032**	**83,716**	**62,810**	**60,855**	**66,406**
Arizona	58,898	17,693	49,699	41,731	30,607	26,665	25,328
Colorado	51,194	52,930	31,928	4,913	4,650	7,826	8,488
Idaho	0	18	46	24	5	3	0
Montana	2,529	1,059	4,182	468	407	478	286
Nevada	25,336	25,152	27,541	8,080	6,592	7,076	10,658
New Mexico	54,894	64,239	56,280	28,133	20,182	18,454	21,267
Utah	3,520	2,725	5,133	235	230	263	196
Wyoming	2,373	819	222	132	138	90	183
Pacific	**645,478**	**294,105**	**548,833**	**700,545**	**478,759**	**673,958**	**584,406**
Alaska	8,198	19,619	28,763	34,194	34,409	30,530	30,841
California	636,270	274,483	518,808	666,274	444,226	643,335	551,810
Hawaii	0	0	0	0	0	0	2
Oregon	1,010	3	321	0	0	0	0
Washington	0	0	941	77	124	93	1,753

a. Includes direct sales by producers to electric utilities as well as sales by the gas utility industry.

R–Revised.

Source: U.S. Department of Energy, Energy Information Administration, *Electric Power Monthly*, December 1988.

TABLE 6-13
GAS UTILITY INDUSTRY GAS USED FOR ELECTRIC GENERATION, 1966-1988[a]

(Trillions of Btu)

	Sales					
	Industrial[b]					
Year	Firm	Interruptible	Other	Total Sales	Transfers[c]	Total Sales and Transfers
1966	1,276.2		367.8	1,644.0	260.2	1,904.2
1967	1,386.9		316.7	1,703.6	254.3	1,957.9
1968	1,489.6		381.3	1,870.9	270.9	2,141.8
1969	1,643.9		360.8	2,004.7	232.6	2,237.3
1970	1,877.5		427.5	2,305.0	283.6	2,588.6
1971	853.6	1,083.6	483.4	2,420.6	595.2	3,015.9
1972	956.5	858.4	553.3	2,368.4	549.5	2,917.9
1973	542.8	871.6	511.4	1,925.8	477.2	2,403.0
1974	497.2	812.5	387.9	1,697.6	419.8	2,117.4
1975	374.5	623.4	385.8	1,383.6	301.6	1,685.2
1976	478.1	889.5	d	1,367.6	250.9	1,618.5
1977	489.1	959.6	d	1,448.7	241.1	1,689.8
1978	544.2	854.0	d	1,398.2	187.9	1,586.1
1979	665.2	980.0	d	1,645.2	335.0	1,980.2
1980	971.9	1,137.7	d	2,109.6	411.1	2,520.7
1981	997.9	1,264.3	d	2,262.2	343.8	2,606.1
1982	775.8	1,157.6	d	1,933.4	367.9	2,301.3
1983	632.2	973.3	d	1,605.5	368.3	1,973.8
1984	670.5	1,079.5	d	1,750.0	405.8	2,155.8
1985	835.4	1,113.3	d	1,948.7	364.5	2,313.2
1986	681.0	766.1	d	1,447.1	315.3	1,762.4
1987R	581.7	927.3	d	1,509.0	395.2	1,904.2
1988	451.7	879.3	d	1,331.0	337.7	1,668.7

a. Excludes direct sales by producers to electric utilities.
b. No breakdown available prior to 1971.
c. Represents transfers by the gas department to the electric department of combination gas and electric companies.
d. Other now included with Industrial to conform to the definition of industrial services.
R–Revised.

SALES—QUANTITIES

TABLE 6-14
GAS UTILITY INDUSTRY GAS USED FOR ELECTRIC GENERATION, BY STATE, 1988[a]

(Trillions of Btu)

Division of State	Industrial Sales				Total Sales and Transfers
	Firm	Interruptible	Total	Transfers[b]	
United States	**451.7**	**879.3**	**1,331.0**	**337.7**	**1,668.7**
New England	**c**	**20.4**	**20.4**	**1.3**	**21.7**
Connecticut	0.0	c	c	1.3	1.3
Maine	0.0	0.0	0.0	0.0	0.0
Massachusetts	c	18.8	18.8	c	18.8
New Hampshire	0.0	0.1	0.1	0.0	0.1
Rhode Island	0.0	1.6	1.6	0.0	1.6
Vermont	0.0	0.0	0.0	0.0	0.0
Middle Atlantic	**1.2**	**26.8**	**28.0**	**161.4**	**189.4**
New Jersey	0.6	19.1	19.7	36.0	55.7
New York	0.2	7.2	7.5	125.3	132.8
Pennsylvania	0.4	0.5	0.9	0.0	0.9
East North Central	**2.3**	**3.3**	**5.6**	**1.2**	**6.8**
Illinois	0.4	2.0	2.4	0.1	2.5
Indiana	0.3	0.0	0.3	1.2	1.5
Michigan	0.5	0.5	1.0	0.0	1.0
Ohio	0.5	0.3	0.8	0.0	0.8
Wisconsin	0.6	0.5	1.1	0.0	1.1
West North Central	**7.0**	**4.0**	**11.0**	**5.9**	**16.9**
Iowa	0.6	1.1	1.7	3.4	5.1
Kansas	3.5	1.0	4.6	0.0	4.5
Minnesota	c	1.1	1.2	2.3	3.4
Missouri	1.6	0.2	1.7	0.2	2.0
Nebraska	1.3	0.5	1.8	0.0	1.8
North Dakota	0.0	c	c	0.0	c
South Dakota	0.0	0.1	0.1	c	0.1
South Atlantic	**1.1**	**146.2**	**147.3**	**8.4**	**155.7**
Delaware	1.1	0.0	1.1	3.0	4.1
District of Columbia	0.0	0.0	0.0	0.0	0.0
Florida	0.0	141.4	141.4	0.0	141.4
Georgia	c	1.6	1.6	0.0	1.6
Maryland	0.1	1.7	1.8	3.7	5.5
North Carolina	0.0	0.1	0.1	0.0	0.1
South Carolina	0.0	0.1	0.1	1.7	1.8
Virginia	0.0	0.0	0.0	0.0	0.0
West Virginia	0.0	1.2	1.2	0.0	1.2
East South Central	**1.2**	**0.5**	**1.6**	**0.2**	**1.9**
Alabama	1.1	c	1.1	0.0	1.1
Kentucky	0.0	0.0	0.0	0.2	0.2
Mississippi	0.1	0.2	0.2	0.0	0.3
Tennessee	0.0	0.3	0.3	0.0	0.3
West South Central	**393.9**	**198.5**	**592.4**	**150.6**	**743.0**
Arkansas	27.4	0.0	27.4	0.0	27.4
Louisiana	19.4	13.7	33.1	26.4	59.5
Oklahoma	0.3	1.1	1.4	71.8	73.2
Texas	346.8	183.7	530.5	52.4	582.9
Mountain	**11.0**	**2.6**	**13.6**	**8.7**	**22.3**
Arizona	4.1	0.1	4.2	0.0	4.2
Colorado	0.8	2.4	3.2	4.1	7.3
Idaho	0.0	0.0	0.0	0.0	0.0
Montana	0.0	c	c	0.3	0.3
Nevada	3.9	0.0	3.9	4.3	8.2
New Mexico	1.9	0.0	1.9	0.0	1.9
Utah	0.0	0.1	0.1	0.0	0.1
Wyoming	0.2	0.0	0.2	0.0	0.2
Pacific	**34.0**	**477.0**	**511.0**	**0.0**	**511.0**
Alaska	16.7	0.0	16.7	0.0	16.7
California	17.3	477.0	494.3	0.0	494.3
Hawaii	0.0	0.0	0.0	0.0	0.0
Oregon	0.0	0.0	0.0	0.0	0.0
Washington	c	0.0	c	0.0	c

a. Excludes direct sales by producers to electric utilities.
b. Volumes transferred by the gas department to the electric department of combination gas and electric companies.
c. Less than 0.05 trillion Btu.

TABLE 6-15
TOTAL LIQUEFIED PETROLEUM GAS SALES BY CONSUMING SECTOR
1966-1987[a]

(Trillions of Btu)

Year	Total	Sector			
		Residential	Commercial	Industrial	Transportation
1966^{R}	1,299.3	461.2	81.4	719.0	37.7
1967^{R}	1,322.0	483.3	85.3	714.7	38.7
1968^{R}	1,472.8	519.1	91.6	818.6	43.4
1969^{R}	1,695.6	589.6	104.1	956.6	45.3
1970^{R}	1,688.5	578.9	102.2	963.9	43.6
1971^{R}	1,722.9	585.4	103.3	983.9	50.3
1972^{R}	1,954.6	628.0	110.8	1,163.9	51.9
1973^{R}	1,980.7	594.8	105.0	1,232.7	48.3
1974^{R}	1,913.8	545.9	96.3	1,227.3	44.3
1975^{R}	1,807.1	527.8	93.1	1,144.5	41.7
1976^{R}	1,907.3	549.2	96.9	1,215.7	45.5
1977^{R}	1,907.9	533.5	94.1	1,232.4	47.9
1978^{R}	1,891.9	516.4	91.1	1,232.9	51.5
1979^{R}	2,138.1	354.8	62.6	1,699.9	20.8
1980^{R}	1,976.0	325.1	57.4	1,576.6	16.9
1981^{R}	1,948.9	310.9	54.9	1,550.9	32.2
1982^{R}	1,978.4	296.1	52.3	1,598.0	32.1
1983^{R}	1,990.2	352.4	62.2	1,541.2	34.3
1984^{R}	2,071.2	379.0	66.9	1,588.3	37.1
1985^{R}	2,102.7	422.5	74.6	1,567.6	38.1
1986^{R}	2,009.5	413.0	72.9	1,483.7	39.9
1987	2,152.5	421.5	74.4	1,615.1	41.5

a. Liquefied petroleum gases include ethane, ethylene, propane, propylene, butane, butylene, butane-propane mixture, ethane-propane mixture, and isobutane. The 1979-1987 LPG data may not be directly comparable to the pre-1979 data due to modifications to the LPG sales survey form and an updated sampling frame.

R—Revised.

Source: U.S. Department of Energy, Energy Information Administration, *State Energy Data Reports.*

SECTION 7
REVENUES

	1988	% Change 88/87
Gas Utility Industry		
(Thousands)		
Total Revenues (From sales)	$46,108,918	+ 1.4
Residential	24,812,206	+ 5.0
Commercial	10,669,667	+ 3.9
Industrial	10,088,872	− 8.9
Industrial Only	6,701,754	− 7.9
Electric Generation	3,387,118	−10.6
Other	538,173	+ 1.6
Resale	$20,060,039	− 6.6

TABLE 6-10

GAS UTILITY INDUSTRY COMMERCIAL AND OTHER GAS VOLUMES, BY TYPE OF INDUSTRY CLASSIFICATION AND BY DIVISION, 1988

(Trillions of Btu)

Industry Classification	Standard Industrial Classification	Total U.S.	New England	Middle Atlantic	East North Central	West North Central	South Atlantic	East South Central	West South Central	Mountain	Pacific
Agriculture, Forestry and Fishing	01-09	13.3	0.1	1.0	5.2	3.2	0.1	0.2	1.8	1.4	0.3
Mining[b]	10-14	0.7	0.0	0.1	0.3	0.1	a	0.1	0.0	0.1	a
Construction	15-17	9.2	0.6	1.0	3.8	1.1	0.5	0.3	0.1	1.6	0.2
Manufacturing[b]	20-39	56.4	0.2	21.0	15.9	2.2	6.6	2.6	1.9	5.0	1.2
Transportation	40-48	28.3	1.4	4.2	10.0	3.8	3.1	0.8	3.0	1.6	0.3
Utility Services other than Electric Generation	49	29.3	0.3	9.8	5.8	2.3	7.4	0.3	2.8	0.7	a
Wholesale Trade	50-51	29.5	1.3	3.2	11.1	4.9	2.1	1.1	0.8	3.9	1.0
Retail Trade	50-57, 59	69.4	3.2	10.2	31.1	7.3	4.1	2.6	0.4	8.0	2.4
Restaurants and Drinking Places	58	48.7	3.6	10.6	13.8	4.4	6.9	2.5	0.7	4.1	2.1
Finance and Insurance	60-64, 66, 67	12.6	0.5	1.6	4.0	1.7	1.5	0.5	0.9	1.3	0.5
Real Estate (Apartments)	65	125.2	9.4	22.0	36.1	11.5	20.2	1.9	5.4	17.7	1.1
Hotels & Other Lodging Places	70	28.7	1.1	5.6	6.2	3.1	4.9	1.4	1.9	4.0	0.5
Services	72-79	66.4	3.2	12.5	24.1	5.9	5.7	3.5	2.4	6.6	2.5
Health Services, Hospitals	80	98.9	3.3	15.5	27.5	9.9	26.8	4.9	6.0	3.4	1.6
Legal & Social Services	81, 83, 84	12.6	0.3	1.3	3.5	1.0	1.2	0.5	2.9	1.5	0.3
Education (Schools)	82	115.5	2.6	20.6	41.7	13.5	13.4	6.5	5.5	9.7	2.0
Membership Organizations & Miscellaneous Services	86-89	38.7	1.5	6.2	16.4	4.7	2.9	2.2	0.6	3.6	0.7
Public Administration	91-97	67.5	2.0	13.9	13.8	5.9	17.8	3.3	2.1	6.7	1.9
Non-Classifiable	99	94.3	8.2	12.7	5.8	25.3	7.2	a	7.2	16.5	11.4
Not Classified		1,799.7	61.5	225.3	368.9	193.3	161.1	97.2	261.5	79.3	351.7
Total Gas Utility Industry, Commercial & Other Sales & Transportation		**2,744.9**	**104.3**	**398.3**	**645.0**	**305.1**	**293.5**	**132.4**	**307.9**	**176.7**	**381.7**
Total Gas Utility Industry, Commercial & Other Sales & Transportation of Companies reporting this table		**1,721.7**	**77.1**	**337.2**	**478.8**	**244.4**	**217.2**	**89.6**	**103.6**	**136.1**	**37.8**

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a. Less than 0.05 trillion Btu.

b. These groups are generally considered as industrial by the gas industry, but non-manufacturing uses such as those for office buildings and warehouses associated with manufacturing facilities are considered to be commercial.

TABLE 6-11

GAS UTILITY INDUSTRY INDUSTRIAL AND ELECTRIC GENERATION VOLUMES, BY TYPE OF INDUSTRY CLASSIFICATION AND BY DIVISION, 1988

(Trillions of Btu)

Industry Classification	Standard Industrial Classification	Total U.S.	New England	Middle Atlantic	East North Central	West North Central	South Atlantic	East South Central	West South Central	Mountain	Pacific
Agriculture, Forestry and Fishing[b]	01-09	17.4	a	0.2	1.2	0.6	0.7	0.2	12.4	1.3	0.8
Mining	10-14	41.8	0.0	0.3	3.2	0.7	0.9	0.1	34.7	1.9	0.1
Construction[b]	15-17	4.0	a	1.4	1.0	0.4	0.5	0.1	0.1	0.5	0.1
Food & Kindred Products	20	188.0	2.5	19.9	59.7	46.4	18.5	11.0	5.9	6.8	17.4
Tobacco Manufacturers	21	1.7	0.1	0.2	0.1	a	0.7	0.6	a	0.0	0.0
Textile Mill Products	22	53.5	1.5	4.5	1.5	0.1	41.1	3.9	0.7	a	0.2
Apparel & Other Textile Products	23	5.8	0.3	0.7	0.8	0.1	1.9	1.6	0.3	0.1	a
Lumber & Wood Products	24	26.4	0.1	2.1	2.8	5.7	0.8	1.1	5.0	0.7	8.0
Furniture & Fixtures	25	6.4	0.1	0.9	3.0	0.5	1.1	0.7	a	0.1	a
Paper & Allied Products	26	147.1	3.1	26.0	42.3	7.2	23.5	9.8	5.3	3.8	26.1
Printing & Publishing	27	12.1	0.3	2.0	5.8	1.0	1.5	0.7	0.5	0.1	0.1
Chemicals & Allied Products	28	309.2	3.0	29.2	62.0	22.0	74.2	16.5	87.8	9.2	5.5
Petroleum & Coal Products	29	66.4	0.4	8.0	18.3	3.7	5.9	4.5	13.3	7.3	5.1
Rubber & Miscellaneous Plastic Products	30	40.6	1.3	4.5	16.5	1.0	6.2	6.5	3.2	1.2	0.2
Leather & Leather Products	31	2.6	a	0.5	1.0	0.3	0.4	0.1	0.1	a	a
Stone, Clay, Glass & Concrete Products	32	179.4	4.4	36.5	38.3	11.1	52.3	15.3	15.2	4.3	1.9
Primary Iron & Steel	331-332	275.0	2.0	36.6	178.4	2.2	24.7	19.7	2.0	7.5	2.0
Primary Nonferrous Metals	333-339	105.5	1.4	25.2	40.2	9.9	4.5	11.2	0.7	8.1	4.3
Fabricated Metal Products	34	78.2	2.5	12.2	38.4	4.1	8.8	6.3	4.8	0.7	0.4
Machinery, Except Electrical	35	41.5	1.2	5.2	24.0	3.8	2.4	1.8	0.5	1.5	1.0
Electric & Electronic Equipment	36	51.1	1.5	9.1	14.5	2.7	5.7	2.9	14.2	0.4	0.2
Transportation Equipment	37	49.5	1.1	5.8	23.3	4.4	7.1	3.5	1.9	2.2	0.2
Instruments & Related Products	38	9.5	0.8	3.5	1.5	0.3	1.3	0.4	1.2	0.1	0.5
Other Manufacturing	39	31.1	1.2	8.8	6.9	0.9	3.9	1.8	5.2	1.0	1.4
Transportation[b]	40-48	27.0	0.0	2.3	3.1	3.0	1.7	0.2	4.8	5.2	6.7
Utility Services other than Electric Generation[b]	49	58.8	3.4	2.7	1.7	8.7	4.2	2.1	32.9	3.0	0.1
Electric Generation[c]	491, 493	1,850.4	26.9	189.8	8.8	22.5	172.9	20.8	826.3	32.9	549.4
Not Classified		3,329.7	34.1	142.2	480.6	194.9	353.9	164.4	1,288.4	290.4	380.7
Total Gas Utility Industry, Industrial & Electric Generation Sales & Transportation		**7,009.7**	**93.2**	**580.3**	**1,078.9**	**358.2**	**821.3**	**307.7**	**2,367.3**	**390.2**	**1,012.4**
Total Gas Utility Industry, Industrual & Electric Generation Sales & Transportation of Companies reporting this table		**2,687.4**	**57.0**	**303.0**	**805.5**	**260.9**	**369.4**	**179.0**	**517.5**	**105.4**	**89.7**
Transfers[c]		**337.7**	**1.3**	**161.4**	**1.2**	**5.9**	**8.4**	**0.2**	**150.6**	**8.7**	**0.0**

a. Less than 0.05 trillion Btu.

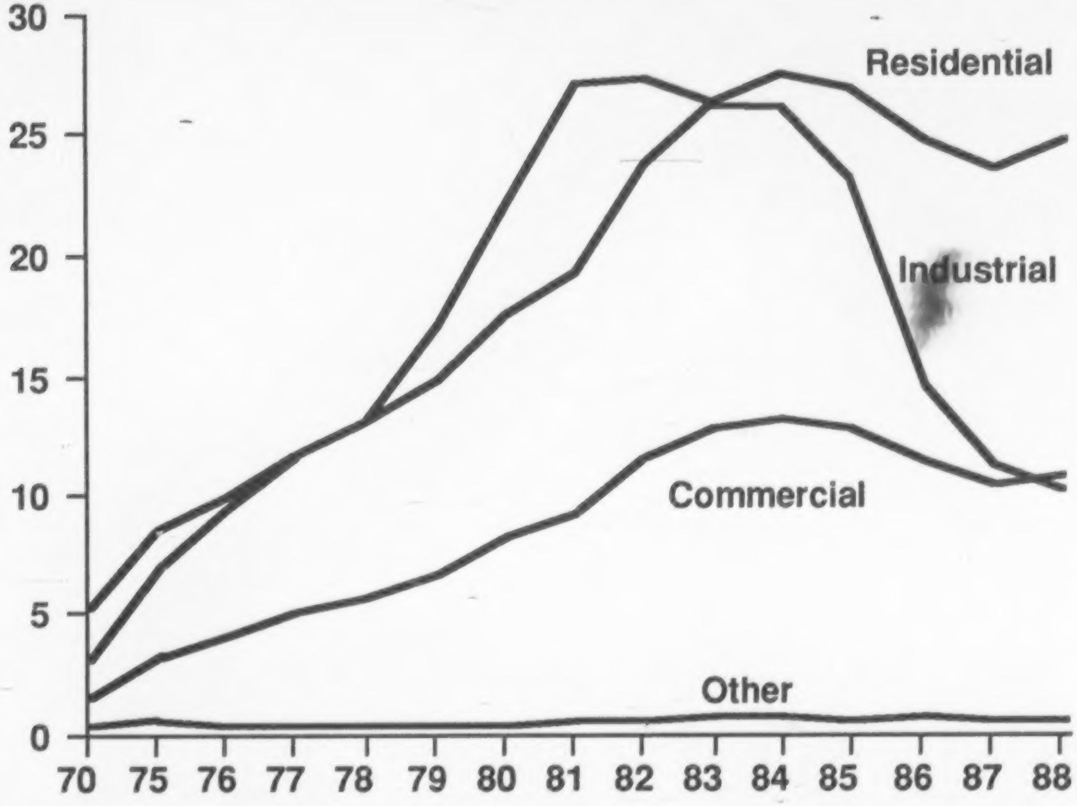
b. These groups are considered as commercial by the gas industry, but are repeated here because some companies still classify a portion of them as industrial.

c. Includes the quantities for electric generation detailed as "Transfers" which are not included in Total Industrial and Electric Generation sales of companies reporting this table or in Total Gas Utility Industry sales. Such quantities represent transfers by the gas department to the electric department of combination gas and electric companies.

CHART 7-1

GAS UTILITY INDUSTRY REVENUES BY CLASS OF SERVICE

(BILLIONS OF DOLLARS)



REFERENCE: TABLE 7-1

REVENUES

2

TABLE 7-1
GAS UTILITY INDUSTRY REVENUES, BY CLASS OF SERVICE, 1966-1988

(Thousands)

Year	Total	Residential	Commercial	Industrial[a]	Other[a]
1966	$ 7,869,888	$ 4,195,331	$ 1,135,352	$ 2,334,654	$204,551
1967	8,260,739	4,382,837	1,223,897	2,460,885	193,120
1968	8,781,152	4,567,307	1,315,409	2,675,261	223,175
1969	9,479,566	4,883,029	1,459,054	2,918,973	218,510
1970	10,282,611	5,207,335	1,620,446	3,181,206	273,624
1971	11,357,392	5,635,395	1,829,309	3,568,582	324,106
1972	12,465,235	6,094,171	2,063,803	3,943,011	364,250
1973	12,987,272	6,246,988	2,172,460	4,196,714	371,110
1974	15,242,481	6,899,395	2,539,300	5,391,139	412,647
1975	19,101,498	8,445,484	3,302,669	6,745,171	608,174
1976	23,701,211	9,941,013	4,075,009	9,434,751	250,438
1977	28,303,200	11,540,805	4,979,890	11,454,675	327,830
1978	32,149,921	12,938,865	5,695,666	13,138,576	376,814
1979	38,947,143	14,832,950	6,623,766	17,044,820	445,607
1980	48,302,986	17,432,094	8,183,432	22,239,982	447,478
1981	56,109,859	19,180,238	9,285,549	27,123,865	520,207
1982	63,199,775	23,699,899	11,666,099	27,200,015	633,762
1983	65,836,669	26,173,122	12,658,718	26,314,873	689,956
1984	67,496,298	27,484,877	13,205,106	26,093,776	712,539
1985	63,292,552	26,864,099	12,722,134	23,085,833	620,486
1986	51,200,810	24,759,281	11,273,843	14,494,725	672,961
1987R	45,491,823	23,622,262	10,271,485	11,068,424	529,652
1988	46,108,918	24,812,206	10,669,667	10,088,872	538,173

[a] Prior to 1976 "Other" electric generation (refer to Table 7-8) is included in the "Other" class of service. For 1976 and beyond all electric generation is included in the Industrial category.

R–Revised.

TABLE 7-2
GAS UTILITY INDUSTRY REVENUES, BY QUARTER AND CLASS OF SERVICE
1970-1988

(Thousands)

Year and Quarter	Total	Residential	Commercial	Industrial[a]	Other[a]
1970					
First	$ 3,742,316	$ 2,197,999	$ 687,117	$ 780,927	$ 76,273
Second	2,342,672	1,136,333	346,748	797,906	61,685
Third	1,624,621	578,747	182,163	803,503	60,208
Fourth	2,573,002	1,294,256	404,418	798,870	75,458
1975					
First	6,192,706	3,303,345	1,241,301	1,507,088	140,972
Second	4,449,583	1,972,484	734,977	1,625,673	116,449
Third	3,396,905	987,079	438,873	1,783,838	187,115
Fourth	5,062,304	2,182,576	887,518	1,828,572	163,638
1980					
First	16,451,183	7,338,136	3,246,038	5,698,318	168,691
Second	10,079,782	3,383,415	1,567,534	5,045,581	83,252
Third	8,578,869	1,785,894	1,036,782	5,690,536	65,657
Fourth	13,193,152	4,924,649	2,333,078	5,805,547	129,878
1981					
First	18,801,868	8,306,949	3,745,524	6,558,875	190,520
Second	12,100,479	3,431,509	1,700,872	6,864,140	103,958
Third	10,093,166	1,953,490	1,174,407	6,886,530	78,739
Fourth	15,114,346	5,488,290	2,664,746	6,814,320	146,990
1982					
First	22,716,502	10,471,317	4,812,798	7,199,859	232,528
Second	13,208,177	4,427,895	2,205,520	6,459,704	115,058
Third	10,788,316	2,372,937	1,455,682	6,868,834	90,863
Fourth	16,486,780	6,427,750	3,192,099	6,671,618	195,313
1983					
First	23,039,000	10,804,224	5,020,783	6,950,292	263,701
Second	14,587,145	5,598,036	2,665,010	6,176,141	147,958
Third	10,920,330	2,597,847	1,544,337	6,682,247	95,899
Fourth	17,290,194	7,173,015	3,428,588	6,506,193	182,398
1984					
First	25,546,562	12,465,689	5,734,074	7,050,372	296,427
Second	14,279,409	5,321,699	2,579,755	6,245,386	132,569
Third	10,848,608	2,687,920	1,553,057	6,523,808	83,823
Fourth	16,821,719	7,009,569	3,338,220	6,274,210	199,720
1985					
First	24,901,945	12,459,204	5,675,345	6,517,019	268,377
Second	12,186,443	4,597,373	2,221,153	5,255,653	112,264
Third	9,790,920	2,658,158	1,468,241	5,591,635	72,886
Fourth	16,413,244	7,149,364	3,375,395	5,721,526	166,959
1986					
First	21,148,759	11,158,610	5,043,862	4,709,532	236,755
Second	9,938,670	4,385,310	1,991,030	3,404,542	157,788
Third	7,048,578	2,541,541	1,271,234	3,133,258	102,545
Fourth	13,064,803	6,673,820	2,967,717	3,247,393	175,873
1987[R]					
First	17,935,993	10,321,003	4,365,609	3,038,548	210,833
Second	8,869,975	4,297,368	1,883,296	2,589,672	99,639
Third	6,453,192	2,469,925	1,207,333	2,704,286	71,648
Fourth	12,232,663	6,533,966	2,815,247	2,735,918	147,532
1988					
First	18,880,470	11,029,270	4,668,327	2,954,103	228,770
Second	8,353,428	4,292,552	1,854,451	2,113,785	92,640
Third	6,361,103	2,473,057	1,194,135	2,638,564	55,347
Fourth	12,513,916	7,017,327	2,952,754	2,382,420	161,415

a. Prior to 1976 "Other" electric generation (see Table 7-8) is included in the "Other" class of service. For 1976 and beyond all electric generation is included in the Industrial category.

R–Revised

REVENUES

TABLE 7-3
GAS UTILITY INDUSTRY REVENUES, BY STATE
1970-1988[a]

(Thousands)

Division and State	1970	1975	1980	1985	1986	1987[R]	1988
United States	**$10,282,611**	**$19,101,498**	**$48,302,986**	**$63,292,552**	**$51,200,810**	**$45,491,823**	**$46,108,918**
New England	**377,666**	**700,071**	**1,479,112**	**2,289,149**	**2,053,700**	**2,042,294**	**2,014,872**
Connecticut	98,178	178,480	366,348	572,431	550,531	539,908	537,687
Maine	4,013	5,983	11,156	19,318	17,945	17,630	18,497
Massachusetts	228,224	425,411	905,414	1,388,928	1,200,111	1,199,713	1,179,609
New Hampshire	10,328	17,190	40,569	71,173	68,331	72,095	70,422
Rhode Island	34,360	65,982	132,190	207,349	189,819	185,820	181,814
Vermont	2,563	7,025	23,435	29,950	26,963	27,128	26,843
Middle Atlantic	**1,753,799**	**2,940,846**	**6,603,468**	**9,466,303**	**8,634,891**	**7,782,705**	**7,725,311**
New Jersey	372,672	594,560	1,408,766	2,144,776	2,004,360	1,918,489	1,905,860
New York	720,609	1,248,149	2,663,655	4,198,569	3,833,287	3,384,776	3,353,780
Pennsylvania	660,518	1,098,137	2,531,047	3,122,958	2,797,244	2,479,440	2,465,671
East North Central	**2,888,886**	**5,033,327**	**11,584,266**	**15,254,866**	**12,864,253**	**10,238,710**	**10,760,091**
Illinois	829,369	1,504,405	3,588,046	4,546,146	3,954,573	3,043,150	3,009,662
Indiana	356,270	530,454	1,341,428	1,881,958	1,571,647	1,191,948	1,283,693
Michigan	651,318	1,269,106	2,602,792	3,779,438	2,965,390	2,384,851	2,552,746
Ohio	789,008	1,254,154	2,875,396	3,413,729	3,032,971	2,560,097	2,722,822
Wisconsin	262,921	475,208	1,176,604	1,633,595	1,339,672	1,058,664	1,191,168
West North Central	**982,976**	**1,585,864**	**3,778,158**	**5,272,430**	**4,356,593**	**3,500,864**	**3,825,835**
Iowa	180,607	311,364	718,370	998,934	836,090	608,321	676,035
Kansas	178,128	282,119	815,547	937,324	726,500	614,154	589,278
Minnesota	218,398	352,170	750,995	1,277,197	1,068,779	817,895	965,884
Missouri	267,726	406,752	992,492	1,277,040	1,103,744	944,110	1,007,533
Nebraska	101,542	169,010	356,352	536,737	414,124	345,545	398,986
North Dakota	15,540	31,037	77,168	119,167	102,503	89,004	93,533
South Dakota	21,035	33,412	67,234	126,031	104,853	81,835	94,586
South Atlantic	**941,975**	**1,538,752**	**4,112,603**	**5,787,396**	**5,095,965**	**5,089,378**	**4,762,307**
Delaware	22,672	33,229	78,336	124,740	115,218	99,525	98,197
District of Columbia	34,635	54,671	120,837	205,515	203,788	190,082	192,861
Florida	120,609	146,526	611,114	910,783	701,026	869,499	726,315
Georgia	191,637	349,550	950,915	1,436,103	1,221,603	1,178,030	1,149,412
Maryland	163,999	272,830	598,324	780,472	755,235	703,257	677,215
North Carolina	106,051	165,659	495,459	670,080	608,360	636,263	599,563
South Carolina	74,858	130,662	354,351	480,164	421,647	446,707	413,043
Virginia	126,840	206,109	482,080	736,868	669,034	609,650	606,728
West Virginia	100,674	179,516	421,187	442,671	400,054	356,365	298,973
East South Central	**509,350**	**775,705**	**2,306,090**	**2,846,738**	**2,293,208**	**2,026,877**	**2,114,877**
Alabama	149,962	237,710	698,762	860,907	718,839	606,982	627,180
Kentucky	127,787	199,738	509,455	694,725	545,376	472,809	504,361
Mississippi	100,383	134,730	517,786	554,370	413,804	359,621	349,203
Tennessee	131,218	203,527	580,087	736,736	615,189	587,465	634,133
West South Central	**1,066,433**	**2,953,148**	**8,951,915**	**9,062,862**	**6,864,686**	**5,756,099**	**5,792,028**
Arkansas	125,928	175,862	408,334	559,821	410,797	368,823	494,033
Louisiana	219,303	386,609	1,215,482	1,118,878	780,850	802,200	719,517
Oklahoma	127,367	328,817	965,728	982,583	621,142	542,880	572,143
Texas	593,835	2,061,860	6,362,371	6,401,580	5,051,897	4,042,196	4,006,335
Mountain	**456,593**	**920,668**	**2,393,490**	**3,050,419**	**2,269,551**	**2,114,856**	**2,159,188**
Arizona	95,423	171,773	384,777	573,729	338,220	344,289	370,420
Colorado	120,563	241,901	713,628	907,835	759,053	716,491	705,499
Idaho	28,990	75,818	182,600	171,432	106,651	93,628	82,405
Montana	42,871	82,021	163,917	204,292	155,632	136,492	148,707
Nevada	32,383	79,858	196,982	226,256	158,474	144,845	174,833
New Mexico	56,975	125,617	333,855	351,053	267,326	236,634	240,724
Utah	55,273	101,164	284,725	453,012	359,651	341,011	336,274
Wyoming	24,115	42,516	133,006	162,810	124,544	101,466	100,326
Pacific	**1,304,933**	**2,653,117**	**7,093,884**	**10,262,389**	**6,767,963**	**6,940,040**	**6,954,409**
Alaska	11,678	24,829	38,725	95,581	106,977	100,243	111,419
California	1,117,573	2,193,048	6,076,193	8,969,857	5,750,067	6,005,674	6,012,063
Hawaii	7,714	24,125	45,162	44,305	37,465	38,556	38,023
Oregon	65,096	156,703	354,502	432,989	321,391	318,050	294,644
Washington	102,872	254,412	579,302	719,657	552,063	477,517	498,260

a. Excludes revenues from sales for resale.

R - Revised.

TABLE 7-4
GAS UTILITY INDUSTRY REVENUES FROM GAS FOR RESALE, BY STATE, 1970-1988

(Thousands)

Division and State	1970	1975	1980	1985	1986	1987[R]	1988
United States	**$6,217,662**	**$11,573,752**	**$37,900,088**	**$39,772,658**	**$27,243,450**	**$21,471,367**	**$20,060,039**
New England	**168,196**	**382,550**	**851,449**	**1,196,319**	**920,749**	**954,706**	**776,176**
Connecticut	51,891	125,226	222,022	276,241	221,372	215,774	202,599
Maine	0	0	0	0	0	0	0
Massachusetts	94,590	216,069	529,965	770,323	576,374	517,855	474,382
New Hampshire	5,319	5,744	17,577	33,292	26,566	134,663	16,734
Rhode Island	16,396	34,645	81,885	116,463	96,437	86,414	82,461
Vermont	0	866	0	0	0	0	0
Middle Atlantic	**1,057,060**	**1,761,307**	**5,815,523**	**6,604,685**	**4,765,072**	**4,006,322**	**3,676,625**
New Jersey	215,211	365,302	1,250,773	1,500,354	1,151,209	1,106,387	982,324
New York	371,895	532,961	1,829,091	2,273,815	1,531,036	1,239,036	1,015,390
Pennsylvania	469,951	863,044	2,735,659	2,830,516	2,082,827	1,660,899	1,678,911
East North Central	**1,940,570**	**3,596,246**	**10,687,835**	**11,510,873**	**8,192,807**	**5,545,810**	**5,689,484**
Illinois	529,299	1,041,633	3,412,478	4,020,673	2,797,463	1,685,208	1,885,126
Indiana	188,301	292,665	988,871	1,310,034	1,234,469	869,433	737,141
Michigan	278,232	659,019	1,804,423	1,471,009	875,090	618,345	614,846
Ohio	756,382	1,144,706	3,145,106	3,199,641	2,229,990	1,681,530	1,820,153
Wisconsin	188,355	458,223	1,336,957	1,509,516	1,055,795	691,294	632,218
West North Central	**439,274**	**803,046**	**2,198,971**	**3,285,293**	**2,739,928**	**2,048,626**	**1,947,074**
Iowa	105,106	202,852	517,052	613,404	537,913	319,608	330,685
Kansas	52,935	89,538	265,146	380,686	292,469	273,894	232,536
Minnesota	100,758	178,677	554,425	885,481	766,472	526,978	485,169
Missouri	127,783	231,990	628,970	941,573	756,547	619,817	585,755
Nebraska	42,394	77,384	174,217	292,336	243,591	195,386	194,474
North Dakota	2,186	7,695	22,277	72,384	63,301	52,486	54,090
South Dakota	8,114	14,910	36,884	99,429	79,635	60,457	64,365
South Atlantic	**748,392**	**1,094,146**	**3,580,787**	**3,882,772**	**2,734,039**	**2,225,417**	**1,937,252**
Delaware	680	1,170	2,180	8,041	6,498	4,728	4,913
District of Columbia	0	0	0	0	0	0	0
Florida	24,297	54,786	218,749	304,365	222,042	264,062	235,377
Georgia	122,268	217,592	709,353	1,091,463	735,816	594,545	503,389
Maryland	81,983	159,003	480,609	484,449	413,111	287,755	254,897
North Carolina	38,167	96,134	440,145	520,029	372,000	354,161	232,592
South Carolina	75,078	86,854	313,732	344,559	246,310	222,254	179,537
Virginia	99,200	177,878	542,737	722,299	557,467	277,214	254,175
West Virginia	306,719	300,729	873,282	407,567	180,795	220,698	272,372
East South Central	**495,572**	**752,002**	**2,695,523**	**2,882,411**	**1,980,694**	**1,467,379**	**1,461,697**
Alabama	79,205	140,282	495,051	670,921	403,144	291,796	268,049
Kentucky	156,277	169,609	528,686	609,693	400,220	322,134	330,548
Mississippi	92,771	163,268	632,103	490,749	287,433	211,720	150,479
Tennessee	167,320	278,843	1,039,683	1,111,048	889,897	641,729	712,621
West South Central	**324,987**	**765,273**	**4,313,620**	**2,836,863**	**1,758,547**	**1,584,040**	**1,530,272**
Arkansas	6,684	9,328	25,469	37,353	31,399	51,994	28,523
Louisiana	192,241	354,067	1,383,886	966,312	578,286	361,223	318,302
Oklahoma	33,698	91,809	422,361	190,649	78,885	51,533	38,440
Texas	92,363	310,069	2,481,904	1,642,549	1,069,977	1,119,290	1,145,007
Mountain	**622,947**	**1,349,007**	**4,434,173**	**5,270,940**	**2,734,085**	**2,144,611**	**1,748,176**
Arizona	482,102	935,305	3,093,184	3,685,562	1,587,397	1,176,118	929,911
Colorado	65,331	163,200	657,917	706,735	548,366	507,308	448,023
Idaho	24,852	96,221	228,724	184,861	101,202	99,425	45,438
Montana	3,435	7,289	25,957	72,458	56,621	47,777	48,526
Nevada	2,950	12,147	36,042	51,030	38,340	37,359	38,538
New Mexico	20,924	34,447	111,849	112,829	37,723	33,296	27,732
Utah	4,186	3,113	15,333	277,426	235,792	189,308	169,475
Wyoming	19,168	97,285	265,167	180,039	128,644	54,020	40,533
Pacific	**420,664**	**1,070,175**	**3,322,207**	**2,302,502**	**1,417,529**	**1,494,456**	**1,293,283**
Alaska	0	0	22,677	0	0	0	0
California	249,666	294,546	1,199,764	572,465	388,932	387,666	265,616
Hawaii	0	0	0	0	0	0	0
Oregon	120,229	598,295	1,665,022	1,264,807	753,600	881,038	853,683
Washington	50,769	177,334	434,744	465,230	274,997	225,752	173,984

R - Revised.

REVENUES

TABLE 7-5
GAS UTILITY INDUSTRY REVENUES, BY STATE AND CLASS OF SERVICE, 1988

(Thousands)

Division and State	Total	Class of Service Residential	Commercial	Industrial	Electric Generation	Other
United States	**$46,108,918**	**$24,812,206**	**$10,669,667**	**$6,701,754**	**$3,387,118**	**$538,173**
New England	**2,014,872**	**1,157,354**	**549,668**	**244,778**	**49,203**	**13,869**
Connecticut	537,687	310,042	150,411	76,727	23	484
Maine	18,497	4,121	9,135	5,241	0	0
Massachusetts	1,179,609	679,311	316,080	127,054	45,644	11,520
New Hampshire	70,422	35,832	26,397	7,365	132	696
Rhode Island	181,814	115,940	38,241	23,224	3,404	1,005
Vermont	26,843	12,108	9,404	5,167	0	164
Middle Atlantic	**7,725,311**	**4,975,747**	**1,734,355**	**784,698**	**72,289**	**158,222**
New Jersey	1,905,860	1,130,105	526,560	198,872	49,235	1,088
New York	3,353,780	2,305,983	663,341	250,506	20,678	113,272
Pennsylvania	2,465,671	1,539,659	544,454	335,320	2,376	43,862
East North Central	**10,760,091**	**7,175,591**	**2,469,923**	**1,055,016**	**19,551**	**40,010**
Illinois	3,009,662	2,020,740	671,489	308,796	7,950	687
Indiana	1,283,693	780,619	300,772	194,261	1,132	6,909
Michigan	2,552,746	1,811,714	579,186	157,014	3,887	945
Ohio	2,722,822	1,846,495	635,887	209,403	2,756	28,281
Wisconsin	1,191,168	716,023	282,589	185,542	3,826	3,188
West North Central	**3,825,835**	**2,092,950**	**1,165,311**	**520,279**	**29,304**	**17,991**
Iowa	676,035	366,732	178,777	124,814	4,490	1,222
Kansas	589,278	303,534	198,171	69,081	11,607	6,885
Minnesota	965,884	517,825	279,992	162,694	2,857	2,516
Missouri	1,007,533	609,187	299,095	87,102	5,286	6,863
Nebraska	398,986	197,187	136,614	60,102	4,582	501
North Dakota	93,533	47,130	42,763	3,575	61	4
South Dakota	94,586	51,355	29,899	12,911	421	0
South Atlantic	**4,762,307**	**2,174,729**	**1,231,024**	**1,025,992**	**310,083**	**20,479**
Delaware	98,197	45,540	19,952	30,204	2,435	66
District of Columbia	192,861	90,858	102,003	0	0	0
Florida	726,315	104,287	159,748	160,157	295,230	6,893
Georgia	1,149,412	639,951	275,247	227,809	4,584	1,821
Maryland	677,215	411,123	163,648	97,918	4,372	154
North Carolina	599,563	235,944	144,392	215,722	499	3,006
South Carolina	413,043	136,280	94,293	181,242	236	992
Virginia	606,728	304,979	197,403	97,070	0	7,276
West Virginia	298,973	205,767	74,338	15,870	2,727	271
East South Central	**2,114,877**	**984,234**	**520,225**	**556,006**	**4,120**	**50,292**
Alabama	627,180	317,743	132,223	172,111	2,785	2,318
Kentucky	504,361	293,194	123,562	68,428	0	19,177
Mississippi	349,203	157,793	70,273	100,493	566	20,078
Tennessee	634,133	215,504	194,167	214,974	769	8,719
West South Central	**5,792,028**	**1,963,323**	**923,626**	**1,285,454**	**1,425,381**	**194,244**
Arkansas	494,033	207,858	113,513	73,045	98,665	952
Louisiana	719,517	332,620	115,509	139,509	58,381	73,498
Oklahoma	572,143	318,961	142,260	105,298	3,906	1,718
Texas	4,006,335	1,103,884	552,344	967,602	1,264,429	118,076
Mountain	**2,159,188**	**1,225,365**	**678,421**	**188,038**	**33,868**	**33,496**
Arizona	370,420	196,183	125,850	34,186	7,550	6,651
Colorado	705,499	406,365	246,606	43,537	7,650	1,341
Idaho	82,405	41,666	27,602	13,136	0	1
Montana	148,707	74,026	47,273	22,336	80	4,992
Nevada	174,833	89,779	65,006	7,526	11,524	998
New Mexico	240,724	147,166	57,246	10,716	6,249	19,347
Utah	336,274	217,065	73,905	44,757	395	152
Wyoming	100,326	53,115	34,933	11,844	420	14
Pacific	**6,954,409**	**3,062,913**	**1,397,114**	**1,041,493**	**1,443,319**	**9,570**
Alaska	111,419	43,051	32,266	610	35,492	0
California	6,012,063	2,683,013	1,087,208	825,832	1,407,809	8,201
Hawaii	38,023	8,957	16,126	12,940	0	0
Oregon	294,644	141,524	98,099	55,021	0	0
Washington	498,260	186,368	163,415	147,090	18	1,369

TABLE 7-6

GAS UTILITY INDUSTRY FIRM AND INTERRUPTIBLE GAS REVENUES, BY STATE, 1988

(Thousands)

	Commercial			Industrial[a]		
Division and State	Total	Firm	Interruptible	Total	Firm	Interruptible
United States	**$10,669,667**	**$10,086,546**	**$583,121**	**$6,701,754**	**$3,350,082**	**$3,351,672**
New England	**549,668**	**497,497**	**52,171**	**244,778**	**155,275**	**89,503**
Connecticut	150,411	126,899	23,512	76,727	47,698	29,029
Maine	9,135	7,613	1,522	5,241	4,424	817
Massachusetts	316,080	289,040	27,040	127,054	84,869	42,185
New Hampshire	26,397	26,300	97	7,365	4,122	3,243
Rhode Island	38,241	38,241	0	23,224	14,162	9,062
Vermont	9,404	9,404	0	5,167	0	5,167
Middle Atlantic	**1,734,355**	**1,647,490**	**86,865**	**784,698**	**514,350**	**270,348**
New Jersey	526,560	476,610	49,950	198,872	109,310	89,562
New York	663,341	650,971	12,370	250,506	184,050	66,456
Pennsylvania	544,454	519,909	24,545	335,320	220,990	114,330
East North Central	**2,469,923**	**2,423,366**	**46,557**	**1,055,016**	**888,755**	**166,261**
Illinois	671,489	666,550	4,939	308,796	255,623	53,173
Indiana	300,772	288,295	12,477	194,261	144,427	49,834
Michigan	579,186	578,957	229	157,014	142,521	14,493
Ohio	635,887	633,480	2,407	209,403	192,610	16,793
Wisconsin	282,589	256,084	26,505	185,542	153,574	31,968
West North Central	**1,165,311**	**1,041,062**	**124,249**	**520,279**	**264,001**	**256,278**
Iowa	178,777	156,932	21,845	124,814	84,924	39,890
Kansas	198,171	154,650	43,521	69,081	35,592	33,489
Minnesota	279,992	256,945	23,047	162,694	39,256	123,438
Missouri	299,095	284,116	14,979	87,102	70,201	16,901
Nebraska	136,614	127,581	9,033	60,102	28,172	31,930
North Dakota	42,763	33,900	8,863	3,575	470	3,105
South Dakota	29,899	26,938	2,961	12,911	5,386	7,525
South Atlantic	**1,231,024**	**1,099,370**	**131,654**	**1,025,992**	**444,681**	**581,311**
Delaware	19,952	19,707	245	30,204	20,992	9,212
District of Columbia	102,003	71,090	30,913	0	0	0
Florida	159,748	148,354	11,394	160,157	19,640	140,517
Georgia	275,247	272,395	2,852	227,809	77,300	150,509
Maryland	163,648	129,392	34,256	97,918	71,928	25,990
North Carolina	144,392	140,782	3,610	215,722	113,409	102,313
South Carolina	94,293	77,418	16,875	181,242	83,598	97,644
Virginia	197,403	169,388	28,015	97,070	51,789	45,281
West Virginia	74,338	70,844	3,494	15,870	6,025	9,845
East South Central	**520,225**	**495,248**	**24,977**	**556,006**	**358,230**	**197,776**
Alabama	132,223	121,125	11,098	172,111	82,033	90,078
Kentucky	123,562	121,633	1,929	68,428	48,198	20,230
Mississippi	70,273	70,227	46	100,493	93,465	7,028
Tennessee	194,167	182,263	11,904	214,974	134,534	80,440
West South Central	**923,626**	**919,013**	**4,613**	**1,285,454**	**496,280**	**789,174**
Arkansas	113,513	113,474	39	73,045	38,087	34,958
Louisiana	115,509	115,154	355	139,509	101,729	37,780
Oklahoma	142,260	140,650	1,610	105,298	63,991	41,307
Texas	552,344	549,735	2,609	967,602	292,473	675,129
Mountain	**678,421**	**674,386**	**4,035**	**188,038**	**125,893**	**62,145**
Arizona	125,850	124,958	892	34,186	33,411	775
Colorado	246,606	245,420	1,186	43,537	30,548	12,989
Idaho	27,602	27,602	0	13,136	12,742	394
Montana	47,273	46,723	550	22,336	3,540	18,796
Nevada	65,006	65,006	0	7,526	7,526	0
New Mexico	57,246	56,102	1,144	10,716	10,306	410
Utah	73,905	73,905	0	44,757	20,255	24,502
Wyoming	34,933	34,670	263	11,844	7,565	4,279
Pacific	**1,397,114**	**1,289,114**	**108,000**	**1,041,493**	**102,617**	**938,876**
Alaska	32,266	32,266	0	610	0	610
California	1,087,208	1,025,557	61,651	825,832	16,149	809,683
Hawaii	16,126	14,263	1,863	12,940	12,940	0
Oregon	98,099	97,725	374	55,021	25,632	29,389
Washington	163,415	119,303	44,112	147,090	47,896	99,194

a. Does not include electric generation.

TABLE 7-7
REVENUES FROM GAS UTILITY INDUSTRY SALES, BY TYPE OF INDUSTRY CLASSIFICATION, 1970–1987

(Thousands)

Industry Classification	1970	1975	1980	1985	1986	1987
Agriculture, forestry and fisheries	$ 13,373	$ 41,816	$ 137,952	$ 208,390	$ 144,398	$ 75,258
Petroleum and natural gas production	29,116	67,556	90,824	229,276	129,144	108,474
Other mining	18,744	44,664	214,732	111,223	64,831	19,978
Electric services[a]	750,879	1,482,516	6,750,928	8,693,019	4,691,501	4,718,438
Other transportation, communication, and public utilities	36,820	99,971	276,149	408,828	282,094	235,304
Hotels, rooming houses, and camps	34,089	85,216	97,974	193,306	191,491	161,354
Laundries, cleaning and dyeing	12,508	30,095	76,146	164,781	163,630	130,185
Other services	82,737	274,992	1,025,544	1,892,707	1,654,918	1,228,223
Other non-manufacturing	105,186	228,982	571,193	1,624,996	1,684,049	1,382,687
Ordnance	14,216	b	b	b	b	b
Food and kindred products	140,016	352,172	991,498	1,135,245	757,839	441,980
Textile products, apparel, fabrics, etc.	32,563	58,468	191,077	270,267	230,524	224,037
Furniture, lumber, and other wood products	25,097	65,210	166,086	163,813	112,523	88,952
Paper and allied products	137,086	258,795	760,852	791,030	451,292	317,650
Carbon black	12,613	26,646	65,844	9,976	5,704	2,691
Chemicals and allied products (except carbon black)	303,261	821,397	2,158,091	2,051,301	1,180,781	496,062
Petroleum refining	167,312	502,402	1,333,883	488,352	205,352	79,076
Rubber and miscellaneous plastic products	20,483	47,694	164,015	197,481	134,337	95,453
Glass products	92,362	183,233	524,302	429,443	290,355	144,339
Cement	81,001	130,210	135,038	35,363	20,929	11,614
Clay products, pottery, etc.	63,707	111,670	250,795	254,079	173,573	109,189
Other stone products and miscellaneous	61,841	103,389	277,604	223,292	162,286	89,138
Primary iron and steel industries	313,595	568,959	1,533,627	1,123,360	659,932	273,711
Primary non-ferrous industries	89,949	268,145	768,053	562,798	339,375	197,780
Fabricated metal products, machinery equipment and supplies	162,290	319,800	729,513	957,537	761,588	473,310
Transportation equipment	92,514	194,678	286,168	404,121	279,699	178,956
Other manufacturing	45,777	129,238	377,918	613,265	546,350	262,359
Public Administration	c	74,956	227,343	450,563	410,924	355,300
Unclassified[d]	608,138	4,377,080	13,597,472	13,951,654	11,440,134	10,884,073
Total Gas Utility Industry Commercial, Industrial and "Other" revenues[a,e]	**$3,547,273**	**$10,949,950**	**$38,143,276**	**$37,639,466**	**$27,169,553**	**$22,785,571**
Total Commercial, Industrial and "Other" revenues of co.'s reporting this table	**$3,028,083**	**$ 9,473,153**	**$28,759,666**	**$26,851,517**	**$19,420,096**	**$13,639,932**
Transfers[a]	**$92,443**	**$293,936**	**$1,157,694**	**$1,210,334**	**$728,024**	**$914,829**

a. Includes "revenues" detailed as transfers of gas for electric generation which are not included in Total Commercial, Industrial and "Other" revenues of companies reporting this table or in Total Gas Utility Industry revenues. Such "revenues" represent credits by the electric department to the gas department of combination gas and electric companies.

b. Classification eliminated.

c. New classification in 1972.

d. Difference between total and classified revenues.

e. Includes Industrial and "Other" sales only prior to 1971.

Note: Prior to 1982 only large volume sales detailed by SIC. After 1987, revenue data by SIC no longer collected.

TABLE 7-8
GAS UTILITY INDUSTRY REVENUES FROM GAS USED FOR ELECTRIC GENERATION, 1966-1988[a]

(Thousands)

	Revenue					
	Industrial[b]					
Year	Firm	Interruptible	Other	Total Revenue	Credits[c]	Total Revenue and Credits
1966	$325,605		$114,051	$ 439,656	$ 73,073	$ 512,729
1967	346,912		96,643	443,555	75,298	518,853
1968	380,995		117,159	498,154	80,816	578,970
1969	426,325		112,454	538,779	71,747	610,526
1970	520,882		137,553	658,435	92,443	750,878
1971	$ 237,111	$ 335,539	160,035	732,685	201,213	933,898
1972	277,344	294,885	201,865	774,094	193,655	967,749
1973	185,106	309,653	214,419	709,178	197,418	906,596
1974	271,516	395,889	225,124	892,529	269,148	1,161,677
1975	352,660	473,951	361,969	1,188,580	293,936	1,482,516
1976	594,784	1,075,885	d	1,670,669	315,935	1,986,604
1977	779,919	1,535,133	d	2,315,052	379,274	2,694,326
1978	953,406	1,452,434	d	2,405,840	330,572	2,736,412
1979	1,424,871	2,063,626	d	3,488,497	721,948	4,210,445
1980	2,411,369	3,181,089	d	5,592,458	1,157,694	6,750,152
1981	3,042,009	4,285,518	d	7,327,527	1,213,333	8,540,860
1982	3,075,361	4,832,346	d	7,907,707	1,321,944	9,229,651
1983	2,486,220	4,253,117	d	6,739,337	1,351,422	8,090,759
1984	2,536,993	4,852,280	d	7,389,273	1,481,561	8,870,834
1985	2,857,907	4,569,758	d	7,427,665	1,210,334	8,637,999
1986	1,805,826	2,143,185	d	3,949,011	728,024	4,677,035
1987[R]	1,281,135	2,508,207	d	3,789,342	914,829	4,704,171
1988	1,083,149	2,303,969	d	3,387,118	761,842	4,148,960

a. Excludes revenues from direct sales by producers to straight electric utilities.
b. No breakdown available prior to 1971.
c. Represents "Revenues" from transfers of gas for electric generation. Such "Revenues" are credits by the electric department to the gas department of combination gas and electric companies.
d. Other now included with Industrial to conform to the definition of industrial services.
R—Revised.

REVENUES

TABLE 7-9
GAS UTILITY INDUSTRY REVENUES, GAS USED FOR ELECTRIC GENERATION, BY STATE, 1988[a]

(Thousands)

Division and State	Industrial Revenue			Credits[b]	Total Revenue and Credits
	Firm	Interruptible	Total		
United States	**$1,083,149**	**$2,303,969**	**$3,387,118**	**$761,842**	**$4,148,960**
New England	**238**	**48,965**	**49,203**	**2,744**	**51,947**
Connecticut	16	7	23	2,721	2,744
Maine	0	0	0	0	0
Massachusetts	222	45,422	45,644	23	45,667
New Hampshire	0	132	132	0	132
Rhode Island	0	3,404	3,404	0	3,404
Vermont	0	0	0	0	0
Middle Atlantic	**4,788**	**67,501**	**72,289**	**384,443**	**456,732**
New Jersey	2,344	46,891	49,235	82,535	131,770
New York	1,101	19,577	20,678	301,908	322,586
Pennsylvania	1,343	1,033	2,376	0	2,376
East North Central	**8,882**	**10,669**	**19,551**	**3,539**	**23,090**
Illinois	1,743	6,207	7,950	170	8,120
Indiana	1,132	0	1,132	3,369	4,501
Michigan	2,142	1,745	3,887	0	3,887
Ohio	1,769	987	2,756	0	2,756
Wisconsin	2,096	1,730	3,826	0	3,826
West North Central	**18,306**	**10,998**	**29,304**	**11,057**	**40,361**
Iowa	1,536	2,954	4,490	5,846	10,336
Kansas	8,369	3,238	11,607	0	11,607
Minnesota	180	2,677	2,857	4,790	7,647
Missouri	4,734	552	5,286	354	5,640
Nebraska	3,487	1,095	4,582	0	4,582
North Dakota	0	61	61	0	61
South Dakota	0	421	421	67	488
South Atlantic	**2,611**	**307,472**	**310,083**	**20,061**	**330,144**
Delaware	2,435	0	2,435	6,332	8,767
District of Columbia	0	0	0	0	0
Florida	0	295,230	295,230	0	295,230
Georgia	3	4,581	4,584	0	4,584
Maryland	173	4,199	4,372	10,066	14,438
North Carolina	0	499	499	0	499
South Carolina	0	236	236	3,663	3,899
Virginia	0	0	0	0	0
West Virginia	0	2,727	2,727	0	2,727
East South Central	**2,898**	**1,222**	**4,120**	**494**	**4,614**
Alabama	2,735	50	2,785	0	2,785
Kentucky	0	0	0	494	494
Mississippi	163	403	566	0	566
Tennessee	0	769	769	0	769
West South Central	**945,016**	**480,365**	**1,425,381**	**315,700**	**1,741,081**
Arkansas	98,665	0	98,665	0	98,665
Louisiana	30,042	28,339	58,381	49,341	107,722
Oklahoma	661	3,245	3,906	167,063	170,969
Texas	815,648	448,781	1,264,429	99,296	1,363,725
Mountain	**27,246**	**6,622**	**33,868**	**23,804**	**57,672**
Arizona	7,224	326	7,550	0	7,550
Colorado	1,829	5,821	7,650	11,896	19,546
Idaho	0	0	0	0	0
Montana	0	80	80	342	422
Nevada	11,524	0	11,524	11,566	23,090
New Mexico	6,249	0	6,249	0	6,249
Utah	0	395	395	0	395
Wyoming	420	0	420	0	420
Pacific	**73,164**	**1,370,155**	**1,443,319**	**0**	**1,443,319**
Alaska	35,492	0	35,492	0	35,492
California	37,654	1,370,155	1,407,809	0	1,407,809
Hawaii	0	0	0	0	0
Oregon	0	0	0	0	0
Washington	18	0	18	0	18

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a. Excludes revenues from direct sales by producers to electric utilities.

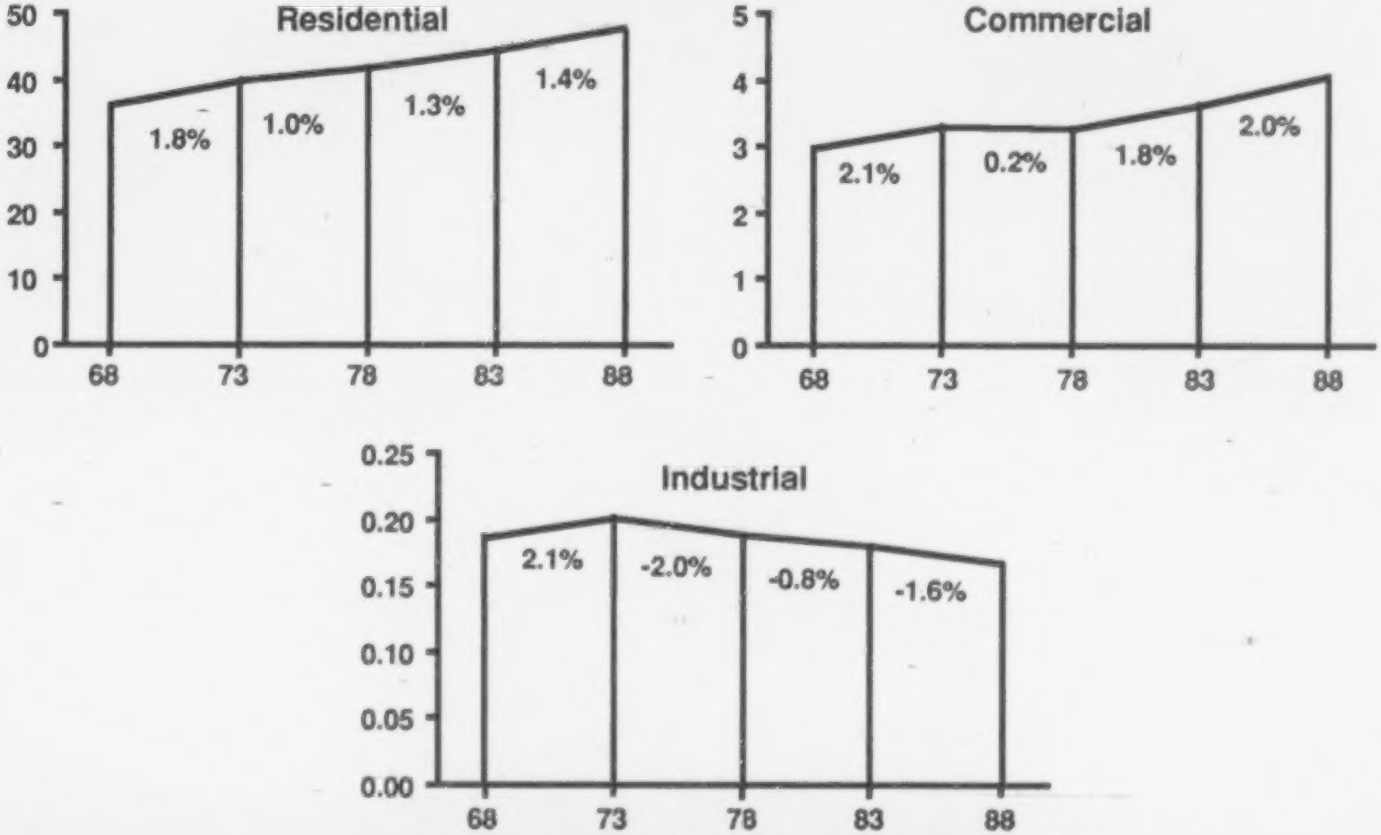
b. Represents "Revenues" from transfers of gas for electric generation. Such "Revenues" are credits by the electric department to the gas department of combination gas and electric companies.

SECTION 8
CUSTOMERS

	Average Customers	
	1988	% Change 88/87
Gas Utility Industry		
(Thousands)		
Total	52,414.3	+1.6
Residential	48,126.8	+1.6
Commercial	4,067.4	+2.2
Industrial	168.0	−6.7
Other	52.1	−2.8

CHART 8-1

GAS UTILITY INDUSTRY CUSTOMERS
(MILLIONS)



% Equals Compound Annual Growth Rates

REFERENCE: TABLE 8-1

CUSTOMERS

TABLE 8-1
GAS UTILITY INDUSTRY CUSTOMERS, BY CLASS OF SERVICE, YEARLY AVERAGES, 1966-1988

(Thousands)

Year	Total	Residential	Commercial	Industrial[a]	Other[a]
1966	38,228.4	35,141.8	2,868.2	173.9	44.5
1967	39,076.5	35,915.1	2,933.6	181.2	46.6
1968	39,930.0	36,691.1	3,003.6	188.1	47.2
1969	40,854.0	37,538.3	3,073.8	192.7	49.2
1970	41,482.1	38,097.0	3,130.9	199.1	55.1
1971	42,241.9	38,788.7	3,199.0	204.7	49.5
1972	42,954.8	39,428.0	3,263.6	209.2	54.1
1973	43,711.2	40,115.5	3,331.4	209.1	55.2
1974	44,267.2	40,626.7	3,392.0	193.8	54.7
1975	44,554.5	40,950.3	3,366.9	183.5	53.8
1976	44,941.4	41,337.6	3,371.5	179.7	52.6
1977	45,274.0	41,682.4	3,371.0	173.3	47.3
1978	45,788.9	42,183.2	3,369.8[b]	189.2[b]	46.7
1979	46,478.3	42,821.3	3,422.8	189.4	44.8
1980	47,222.9	43,489.3	3,497.8	187.2	48.5
1981	47,947.5	44,149.4	3,564.5	187.2	46.5
1982	48,414.9	44,552.3	3,631.1	186.1	45.4
1983	48,799.2	44,893.8	3,676.3	182.2	46.8
1984	49,324.6	45,366.9	3,730.3	180.2	47.2
1985	49,970.7	45,928.7	3,815.7	179.0	47.3
1986	50,704.3	46,583.2	3,891.5[c]	177.6	52.0[c]
1987[R]	51,575.8	47,362.5	3,979.7	180.0	53.6
1988	52,414.3	48,126.8	4,067.4	168.0	52.1

a. Prior to 1976, "Other" electric generation customers included in the "Other" class of service. For 1976 and beyond all electric generation customers included in the Industrial category.

b. Reclassification of customers from commercial to industrial.

c. Reclassification of customers from commercial to other.

R–Revised.

CUSTOMERS

TABLE 8-2
GAS UTILITY INDUSTRY AVERAGE CUSTOMERS, BY QUARTER, 1970-1988

(Thousands)

Year and Quarter	Total	Residential	Commercial	Industrial[a]	Other[a]
1970					
First	41,491	38,063	3,175	199	54
Second	41,419	38,058	3,109	199	53
Third	41,080	37,773	3,054	198	55
Fourth	41,939	38,494	3,186	201	58
1975					
First	44,762	41,099	3,406	194	63
Second	44,386	40,806	3,348	181	51
Third	44,233	40,686	3,322	177	48
Fourth	44,839	41,210	3,393	182	54
1980					
First	47,365	43,579	3,549	188	49
Second	47,197	43,452	3,509	187	49
Third	46,879	43,218	3,427	186	48
Fourth	47,450	43,708	3,506	187	49
1981					
First	48,159	44,315	3,609	188	47
Second	47,942	44,140	3,567	188	47
Third	47,573	43,839	3,503	186	45
Fourth	48,116	44,303	3,580	186	47
1982					
First	48,723	44,803	3,687	188	45
Second	48,429	44,558	3,638	187	46
Third	47,990	44,197	3,564	184	45
Fourth	48,517	44,650	3,636	185	46
1983					
First	49,089	45,127	3,731	184	47
Second	48,813	44,900	3,683	183	47
Third	48,348	44,512	3,609	181	46
Fourth	48,946	45,035	3,683	181	47
1984					
First	49,587	45,585	3,773	181	48
Second	49,322	45,363	3,732	180	47
Third	48,896	45,004	3,666	179	47
Fourth	49,494	45,516	3,751	180	47
1985					
First	50,244	46,147	3,868	181	48
Second	49,917	45,876	3,814	180	47
Third	49,567	45,595	3,747	178	47
Fourth	50,158	46,099	3,834	178	47
1986					
First	50,923	46,746	3,944	181	52
Second	50,625	46,508	3,887	178	52
Third	50,327	46,278	3,822	176	51
Fourth	50,943	46,801	3,913	177	52
1987[R]					
First	51,752	47,488	4,028	182	54
Second	51,603	47,374	3,995	181	53
Third	51,163	47,025	3,907	178	53
Fourth	51,786	47,564	3,989	179	54
1988					
First	52,595	48,255	4,117	169	54
Second	52,367	48,077	4,068	168	54
Third	52,013	47,799	3,996	167	51
Fourth	52,683	48,377	4,088	168	50

a. Prior to 1976, "Other" electric generation customers included in the "Other" class of service. For 1976 and beyond all electric generation customers included in the Industrial category.

R – Revised.

TABLE 8-3
GAS UTILITY INDUSTRY AVERAGE CUSTOMERS, BY STATE, 1970-1988[a]

(Thousands)

Division and State	1970	1975	1980	1985	1986	1987[R]	1988
United States	**41,482.1**	**44,554.5**	**47,222.9**	**49,970.7**	**50,704.3**	**51,575.8**	**52,414.3**
New England	**1,692.3**	**1,692.5**	**1,734.6**	**1,839.3**	**1,873.2**	**1,922.9**	**1,971.3**
Connecticut	393.7	392.5	405.0	433.0	441.0	452.2	462.1
Maine	23.4	18.1	15.0	15.2	15.4	15.5	15.7
Massachusetts	1,055.3	1,055.4	1,079.3	1,130.3	1,149.4	1,172.5	1,197.4
New Hampshire	44.1	45.4	50.9	57.9	58.8	67.8	72.0
Rhode Island	161.4	164.6	168.9	184.8	189.3	194.3	201.1
Vermont	14.4	16.6	15.4	18.0	19.3	20.7	23.0
Middle Atlantic	**8,192.1**	**8,230.3**	**8,111.4**	**8,362.7**	**8,458.2**	**8,558.1**	**8,673.1**
New Jersey	1,763.1	1,815.1	1,849.1	1,955.2	2,006.8	2,059.2	2,114.8
New York	4,125.6	4,102.5	3,925.5	4,023.5	4,051.3	4,080.6	4,117.6
Pennsylvania	2,303.4	2,312.7	2,336.8	2,384.0	2,400.1	2,418.3	2,440.7
East North Central	**9,508.7**	**10,253.1**	**10,775.6**	**11,118.9**	**11,261.6**	**11,441.8**	**11,620.5**
Illinois	2,938.4	3,134.2	3,304.2	3,355.8	3,386.0	3,429.3	3,469.4
Indiana	1,084.4	1,187.7	1,241.1	1,310.0	1,330.3	1,362.0	1,390.7
Michigan	2,018.5	2,234.5	2,443.3	2,550.9	2,591.8	2,638.2	2,682.5
Ohio	2,644.5	2,757.8	2,746.5	2,794.1	2,837.7	2,859.2	2,900.3
Wisconsin	822.9	939.0	1,040.5	1,108.1	1,129.8	1,153.1	1,177.6
West North Central	**3,499.9**	**3,820.4**	**4,126.5**	**4,373.4**	**4,424.8**	**4,513.0**	**4,574.0**
Iowa	642.1	691.6	745.4	764.2	766.0	767.9	773.7
Kansas	643.1	669.8	723.0	787.3	794.3	804.6	812.8
Minnesota	640.9	726.8	809.4	909.8	935.2	983.0	1,006.1
Missouri	1,068.2	1,167.1	1,218.4	1,241.0	1,253.7	1,275.8	1,294.2
Nebraska	367.7	400.5	442.4	466.3	469.2	473.2	476.0
North Dakota	55.2	71.3	85.7	94.6	95.1	95.6	96.3
South Dakota	82.6	93.1	102.4	110.1	111.3	112.9	114.8
South Atlantic	**3,528.9**	**3,861.9**	**4,042.2**	**4,404.6**	**4,515.7**	**4,626.9**	**4,751.2**
Delaware	81.4	82.8	81.5	85.2	87.1	89.2	91.1
District of Columbia	162.8	155.4	148.6	145.3	145.6	145.4	146.1
Florida	370.1	391.8	433.0	460.5	462.7	469.6	472.3
Georgia	804.4	912.3	1,025.9	1,195.6	1,247.4	1,297.3	1,344.5
Maryland	712.5	774.6	773.5	803.0	809.0	815.6	822.6
North Carolina	285.2	338.0	366.7	444.5	466.8	489.4	520.6
South Carolina	233.3	283.1	296.2	319.3	325.9	333.4	347.2
Virginia	497.3	528.4	523.2	563.8	585.4	604.0	625.2
West Virginia	381.9	395.4	393.6	387.3	386.8	382.9	381.5
East South Central	**1,947.2**	**2,139.2**	**2,211.6**	**2,285.7**	**2,314.9**	**2,352.1**	**2,404.9**
Alabama	588.8	637.1	679.0	688.4	697.8	700.1	709.1
Kentucky	583.0	631.3	626.7	643.7	647.9	654.7	665.2
Mississippi	347.3	380.3	396.7	403.7	405.1	405.8	408.0
Tennessee	428.1	490.5	509.3	549.4	564.1	591.5	622.6
West South Central	**4,758.5**	**5,092.0**	**5,509.8**	**5,847.6**	**5,869.4**	**5,853.1**	**5,821.2**
Arkansas	419.3	461.4	489.9	530.9	332.8	541.0	547.7
Louisiana	871.3	935.9	1,002.3	995.8	990.1	982.7	986.9
Oklahoma	697.6	740.5	816.4	902.8	898.4	886.7	886.7
Texas	2,770.3	2,954.2	3,201.2	3,418.1	3,448.1	3,442.8	3,399.8
Mountain	**1,892.9**	**2,311.6**	**2,700.3**	**3,041.1**	**3,080.5**	**3,140.8**	**3,190.8**
Arizona	447.5	554.1	579.1	595.4	593.8	600.1	605.5
Colorado	586.5	688.8	850.1	1,011.1	1,032.6	1,049.9	1,063.0
Idaho	79.0	107.5	108.6	116.9	119.3	122.1	125.3
Montana	150.8	173.4	182.7	189.1	188.8	190.0	193.4
Nevada	72.4	112.2	168.2	201.2	211.7	225.5	239.7
New Mexico	231.8	278.9	327.6	367.1	375.2	381.9	389.6
Utah	243.8	297.4	361.0	432.8	432.8	447.1	451.5
Wyoming	81.1	99.2	122.9	127.5	126.3	124.1	122.9
Pacific	**6,461.6**	**7,153.5**	**8,010.8**	**8,697.9**	**8,906.1**	**9,167.0**	**9,407.1**
Alaska	17.4	29.1	42.1	72.2	76.3	78.2	79.3
California	5,919.4	6,495.1	7,286.3	7,888.0	8,071.2	8,302.4	8,506.8
Hawaii	36.1	34.8	33.2	32.8	33.1	33.7	34.0
Oregon	197.5	248.2	275.3	303.6	311.6	320.7	332.8
Washington	291.2	346.3	373.9	401.3	413.9	432.0	454.2

a. Excludes customers purchasing for resale.
R–Revised.

CUSTOMERS

TABLE 8-4
GAS UTILITY INDUSTRY CUSTOMERS, BY STATE AND CLASS OF SERVICE, AVERAGES, 1988

(Thousands)

		Class of Service				
Division and State	Total	Residential	Commercial	Industrial	Electric Generation	Other
United States	**52,414.3**	**48,126.8**	**4,067.4**	**167.5**	**0.5**	**52.1**
New England	**1,971.3**	**1,791.1**	**167.4**	**8.6**	**a**	**4.2**
Connecticut	462.1	417.7	41.5	2.8	a	0.1
Maine	15.7	11.9	3.7	0.1	0.0	0.0
Massachusetts	1,197.4	1,095.0	94.6	4.4	a	3.5
New Hampshire	72.0	62.6	9.1	0.1	a	0.1
Rhode Island	201.1	184.1	15.7	1.2	a	a
Vermont	23.0	19.7	2.8	a	0.0	0.5
Middle Atlantic	**8,673.1**	**7,994.2**	**642.0**	**25.6**	**a**	**11.4**
New Jersey	2,114.8	1,904.4	204.5	6.0	a	a
New York	4,117.6	3,823.9	270.2	13.9	a	9.6
Pennsylvania	2,440.7	2,265.9	167.3	5.7	a	1.8
East North Central	**11,620.5**	**10,683.5**	**884.7**	**48.2**	**0.1**	**4.0**
Illinois	3,469.4	3,179.4	270.8	18.5	a	0.8
Indiana	1,390.7	1,267.8	117.1	5.3	a	0.6
Michigan	2,682.5	2,487.6	184.5	10.4	a	0.0
Ohio	2,900.3	2,676.4	214.3	6.9	a	2.6
Wisconsin	1,177.6	1,072.3	98.1	7.1	a	a
West North Central	**4,574.0**	**4,123.5**	**436.8**	**11.8**	**0.2**	**1.6**
Iowa	773.7	690.7	80.9	1.8	a	0.3
Kansas	812.8	728.4	80.1	3.8	0.1	0.3
Minnesota	1,006.1	910.5	91.6	3.9	a	0.2
Missouri	1,294.2	1,194.4	98.6	0.6	a	0.6
Nebraska	476.0	413.3	61.2	1.2	a	0.2
North Dakota	96.3	84.1	12.2	0.1	a	0.0
South Dakota	114.8	102.1	12.2	0.5	a	0.0
South Atlantic	**4,751.2**	**4,325.6**	**401.4**	**17.6**	**a**	**6.6**
Delaware	91.1	84.3	6.6	0.2	a	a
District of Columbia	146.1	131.3	14.8	0.0	0.0	0.0
Florida	472.3	429.2	42.3	0.6	a	0.3
Georgia	1,344.5	1,241.7	95.0	4.8	a	3.0
Maryland	822.6	759.8	58.0	5.2	a	a
North Carolina	520.6	458.8	58.8	2.9	a	0.1
South Carolina	347.2	309.2	36.5	1.3	a	0.3
Virginia	625.2	561.9	58.0	2.5	0.0	2.9
West Virginia	381.5	349.8	31.4	0.2	a	0.1
East South Central	**2,404.9**	**2,159.3**	**227.5**	**6.4**	**a**	**11.6**
Alabama	709.1	652.2	51.7	2.1	a	3.1
Kentucky	665.2	601.6	61.0	1.3	0.0	1.2
Mississippi	408.0	366.7	38.3	1.1	a	1.9
Tennessee	622.6	538.8	76.5	2.0	a	5.4
West South Central	**5,821.2**	**5,321.4**	**481.4**	**8.9**	**a**	**9.3**
Arkansas	547.7	484.6	61.9	1.2	a	a
Louisiana	986.9	920.8	63.8	1.0	a	1.3
Oklahoma	886.7	798.7	84.9	2.5	a	0.6
Texas	3,399.8	3,117.3	270.9	4.2	a	7.4
Mountain	**3,190.8**	**2,887.7**	**295.1**	**4.7**	**a**	**3.3**
Arizona	605.5	558.8	45.8	0.3	a	0.6
Colorado	1,063.0	951.8	110.3	0.8	a	0.1
Idaho	125.3	107.1	17.9	0.3	0.0	0.0
Montana	193.4	170.8	22.1	0.4	0.0	a
Nevada	239.7	220.6	18.9	0.1	a	a
New Mexico	389.6	351.1	34.0	1.9	a	2.5
Utah	451.5	418.3	32.6	0.6	a	a
Wyoming	122.9	109.2	13.5	0.2	a	a
Pacific	**9,407.1**	**8,840.5**	**530.9**	**35.6**	**a**	**0.1**
Alaska	79.3	67.9	11.5	a	a	0.0
California	8,506.8	8,053.7	423.1	29.9	a	0.1
Hawaii	34.0	30.3	1.9	1.8	0.0	0.0
Oregon	332.8	290.1	42.2	0.6	0.0	0.0
Washington	454.2	398.6	52.2	3.3	a	a

a. Less than 0.05 thousand.

TABLE 8-5
GAS UTILITY INDUSTRY HOUSEHEATING CUSTOMERS, BY STATE, YEARLY AVERAGES FOR 1980–1988

(Thousands)

Division and State	1980	1985	1986	1987	1988	
					Number	Saturation[a]
United States	**38,183.6**	**40,781.5**	**41,347.0**	**41,839.3**	**42,338.9**	**88.0**
New England	**1,009.5**	**1,138.3**	**1,193.7**	**1,218.0**	**1,263.0**	**70.5**
Connecticut	216.5	254.1	264.9	276.4	287.4	68.8
Maine	6.6	9.2	12.1	5.0	5.1	42.9
Massachusetts	636.0	698.1	730.4	741.1	763.2	69.7
New Hampshire	36.1	40.3	41.5	48.3	52.3	83.5
Rhode Island	103.1	123.1	130.1	131.5	137.5	74.7
Vermont	11.2	13.5	14.7	15.7	17.5	88.6
Middle Atlantic	**4,521.7**	**5,011.2**	**5,016.9**	**5,168.4**	**5,315.3**	**66.5**
New Jersey	947.5	1,156.7	1,244.2	1,283.3	1,331.2	69.9
New York	1,789.6	1,951.4	1,835.9	1,931.7	2,003.7	52.4
Pennsylvania	1,784.6	1,903.1	1,936.8	1,953.4	1,980.4	87.4
East North Central	**9,169.1**	**9,671.3**	**9,817.0**	**9,957.6**	**10,126.3**	**94.8**
Illinois	2,616.9	2,758.1	2,796.7	2,816.1	2,848.7	89.6
Indiana	1,050.1	1,158.4	1,155.0	1,205.3	1,232.3	97.2
Michigan	2,162.3	2,302.9	2,331.8	2,372.9	2,420.4	97.3
Ohio	2,508.9	2,534.1	2,567.8	2,593.6	2,630.9	98.3
Wisconsin	830.9	917.8	965.7	969.7	994.0	92.7
West North Central	**3,591.9**	**3,753.0**	**3,894.6**	**3,968.5**	**4,019.9**	**97.5**
Iowa	633.2	657.9	665.8	662.6	664.5	96.2
Kansas	649.9	649.5	702.2	713.9	724.8	99.5
Minnesota	691.3	783.7	808.9	849.8	869.5	95.5
Missouri	1,083.4	1,090.1	1,140.3	1,159.8	1,177.6	98.6
Nebraska	375.4	397.3	400.6	404.8	406.3	98.3
North Dakota	70.6	78.9	79.6	79.5	80.0	95.2
South Dakota	88.1	95.6	97.2	98.1	97.2	95.2
South Atlantic	**3,315.2**	**3,625.9**	**3,706.5**	**3,765.1**	**3,674.4**	**85.0**
Delaware	52.0	55.4	59.5	60.5	62.7	74.3
District of Columbia	92.1	98.3	100.4	101.1	102.5	78.1
Florida	368.6	370.8	339.2	342.0	356.7	83.1
Georgia	946.8	1,066.7	1,136.2	1,176.0	1,219.4	98.2
Maryland	550.5	594.9	608.7	612.0	619.7	81.6
North Carolina	288.4	380.0	393.5	398.9	443.2	96.6
South Carolina	257.3	260.1	269.0	265.7	273.3	88.4
Virginia	403.1	450.2	467.8	488.2	472.0	84.0
West Virginia	356.4	349.5	332.2	320.7	124.9	35.7
East South Central	**1,966.5**	**2,008.2**	**2,022.1**	**2,060.1**	**2,030.7**	**94.0**
Alabama	625.3	623.0	626.8	613.5	584.4	89.6
Kentucky	562.9	561.2	562.1	585.4	583.5	97.0
Mississippi	356.1	358.6	358.9	364.5	340.7	92.9
Tennessee	422.2	465.4	474.3	496.7	522.1	96.9
West South Central	**4,999.7**	**4,982.8**	**4,965.4**	**4,910.4**	**4,734.5**	**89.0**
Arkansas	433.9	379.1	380.3	391.0	438.4	90.4
Louisiana	931.7	894.8	880.5	857.1	671.7	72.9
Oklahoma	732.2	782.4	780.0	768.3	779.9	97.6
Texas	2,901.9	2,926.5	2,924.4	2,894.0	2,844.5	91.2
Mountain	**2,407.1**	**2,649.2**	**2,693.5**	**2,711.4**	**2,756.6**	**95.5**
Arizona	509.2	475.0	471.3	467.3	472.7	84.6
Colorado	759.1	903.8	933.4	939.8	951.8	100.0
Idaho	82.3	99.0	99.0	103.9	105.0	98.1
Montana	162.0	167.0	166.7	167.5	159.7	93.5
Nevada	155.3	162.3	170.3	181.2	192.6	87.3
New Mexico	291.7	330.0	337.3	326.4	351.1	100.0
Utah	338.3	398.8	403.3	415.3	418.3	100.0
Wyoming	109.2	113.3	112.2	110.0	105.4	96.5
Pacific	**7,202.9**	**7,941.6**	**8,037.3**	**8,079.8**	**8,418.2**	**95.2**
Alaska	36.2	61.9	65.2	66.9	67.9	100.0[b]
California	6,620.2	7,288.5	7,401.1	7,403.6	7,711.4	95.7
Hawaii	0.0	0.0	0.0	0.0	0.0	0.0[b]
Oregon	225.0	245.2	249.6	255.6	265.6	91.5
Washington	321.5	346.0	321.4	353.7	373.3	93.6

[a] Percentages refer to proportion of residential gas customers using gas for heating.

[b] 1987 saturation percentages.

Source: A.G.A. *Gas Househeating Survey.* Data represent average number of customers developed from number of year-end customers as shown in survey.

SECTION 9
PRICES

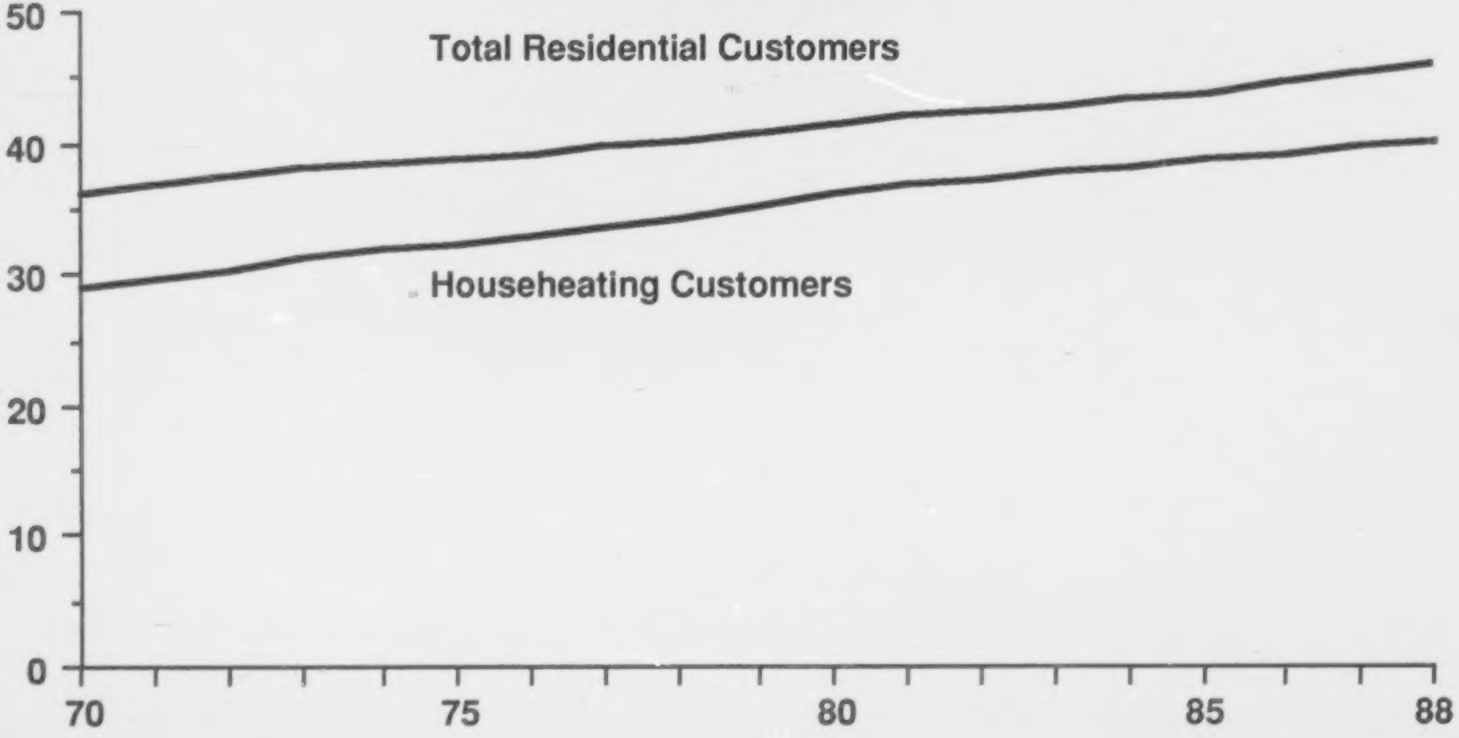
	1988	% Change 88/87*
Gas Utility Industry		
(\$/MMBtu)		
Total	\$ 4.31	− 0.0
Residential	5.29	− 1.8
Commercial	4.63	− 2.8
Industrial	2.85	− 0.8
Other	3.36	− 1.9
Wellhead (\$/Mcf)	1.71	0.0
City Gate	3.24	− 1.8
Electric	21.95	+ 0.5
Number 2 Fuel Oil	6.10	− 0.5

*Percentage change based on unrounded data for both years. Percentage change for wellhead price based on preliminary data for both years.

Prices in this section, unless cited as a source other than A.G.A., were developed using the following methodology. Total revenues for a specific segment and time period are divided by the corresponding total sales for that specific segment and time period. For example, the residential price (average 1988) for the state of New York was obtained by dividing total 1988 residential revenues in New York by the total 1988 residential sales in New York. Likewise, the residential price (average 1988) for the total United States was obtained by dividing total 1988 residential revenues in the United States by the total 1988 residential sales in the United States.

CHART 8-2

GAS UTILITY HOUSEHEATING CUSTOMERS
(MILLIONS)



REFERENCE: TABLE 8-6

TABLE 8-6
GAS UTILITY INDUSTRY HOUSEHEATING CUSTOMERS AND HEATING SATURATIONS[a] BY CENSUS DIVISION, 1970–1988 YEARLY AVERAGES

(Thousands)

Census Division	1970		1975		1980		1984	
	Customers	Percent	Customers	Percent	Customers	Percent	Customers	Percent
United States	**31,209**	**81.9**	**34,372**	**84.1**	**38,184**	**87.8**	**40,037**	**88.3**
New England	779	48.6	857	54.8	1,010	63.1	1,113	67.1
Middle Atlantic	3,827	50.3	4,128	54.1	4,522	60.0	4,910	63.9
East North Central	7,528	85.6	8,432	89.4	9,169	92.1	9,584	94.2
West North Central	2,916	92.2	3,261	94.5	3,592	96.3	3,720	95.3
South Atlantic	2,599	80.9	2,970	84.2	3,315	89.4	3,588	90.8
East South Central	1,695	96.4	1,868	96.5	1,967	98.5	2,002	97.8
West South Central	4,278	99.0	4,496	97.1	4,999	99.5	5,107	96.2
Mountain	1,646	97.3	2,040	98.0	2,407	98.2	2,661	99.3
Pacific	5,941	98.3	6,320	94.6	7,203	95.8	7,352	92.2

Census Division	1985		1986		1987		1988	
	Customers	Percent	Customers	Percent	Customers	Percent	Customers	Percent
United States	**40,781**	**88.8**	**41,347**	**88.8**	**41,839**	**88.3**	**42,339**	**88.0**
New England	1,138	67.6	1,194	69.6	1,218	69.5	1,263	70.5
Middle Atlantic	5,011	64.8	5,017	64.2	5,168	65.5	5,315	66.5
East North Central	9,671	94.4	9,817	94.7	9,958	94.6	10,126	94.8
West North Central	3,753	95.3	3,895	97.7	3,969	97.6	4,020	97.5
South Atlantic	3,626	90.1	3,707	89.9	3,765	89.3	3,674	85.0
East South Central	2,008	97.6	2,022	97.1	2,060	97.5	2,031	94.0
West South Central	4,983	93.4	4,965	92.7	4,910	92.0	4,735	89.0
Mountain	2,649	96.2	2,694	96.2	2,711	95.4	2,757	95.5
Pacific	7,942	97.4	8,037	96.5	8,419	95.2	8,419	95.2

[a] Percentages refer to proportion of total residential customers, within specified areas, using gas for heating.

Source: *A.G.A. Gas Househeating Survey.* Data represent average number of customers developed from number of year-end customers as shown in survey.

TABLE 9-1
AVERAGE WELLHEAD PRICES OF NATURAL GAS, BY STATE, 1970–1987[a]

(¢/MCF)

Division and State	1970	1975	1980	1984	1985	1986	1987
United States	**17.1¢**	**44.5¢**	**158.8¢**	**265.5¢**	**251.1¢**	**194.2¢**	**166.5¢**
New England	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Middle Atlantic	**28.0**	**68.0**	**210.2**	**334.8**	**319.4**	**261.2**	**221.6**
New Jersey	0.0	0.0	0.0	0.0	0.0	0.0	0.0
New York	30.3	74.0	194.9	400.0	337.0	339.3	200.0
Pennsylvania	27.9	67.5	212.7	325.0	315.6	250.0	225.0
East North Central	**26.4**	**66.6**	**217.6**	**343.3**	**329.2**	**314.7**	**288.6**
Illinois	15.7	70.0	190.0	278.0	277.0	257.1	224.0
Indiana	23.7	39.0	135.0	338.1	250.7	123.3	171.0
Michigan	26.7	63.4	235.5	375.9	360.0	360.0	324.0
Ohio	27.1	70.6	197.7	318.6	307.5	284.1	258.1
Wisconsin	0.0	0.0	0.0	0.0	0.0	0.0	0.0
West North Central	**14.1**	**17.5**	**79.5**	**160.0**	**135.9**	**123.8**	**118.2**
Iowa	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Kansas	14.0	17.2	77.2	148.8	127.0	121.4	115.1
Minnesota	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Missouri	24.5	34.0	0.0	375.0	350.0	375.0	375.0
Nebraska	17.1	54.1	82.9	224.0	301.1	282.1	242.0
North Dakota	16.4	23.0	118.8	226.4	189.6	135.2	130.0
South Dakota	0.0	0.0	b	367.0	251.4	246.3	270.5
South Atlantic	**25.5**	**50.4**	**274.2**	**335.8**	**368.8**	**361.0**	**357.2**
Delaware	0.0	0.0	0.0	0.0	0.0	0.0	0.0
District of Columbia	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Florida	0.0	97.3	173.0	257.0	243.3	120.2	168.1
Georgia	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Maryland	24.9	27.0	45.6	58.3	59.0	65.0	54.5
North Carolina	0.0	0.0	0.0	0.0	0.0	0.0	0.0
South Carolina	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Virginia	30.8	51.5	285.0	300.0	302.0	245.0	208.0
West Virginia	25.4	36.9	300.0	345.0	385.0	390.0	385.0
East South Central	**20.7**	**59.3**	**223.2**	**321.8**	**316.0**	**231.4**	**227.5**
Alabama	13.9	87.0	318.6	373.5	371.1	289.2	296.8
Kentucky	24.6	54.0	89.3[c]	170.0	238.6	188.3	182.4
Mississippi	18.4	49.6	231.7	346.8	316.5	213.1	193.9
Tennessee	19.9	43.0	176.0	350.0	248.0	178.0	131.0
West South Central	**16.7**	**45.6**	**156.9**	**260.3**	**248.0**	**187.9**	**159.7**
Arkansas	16.3	34.7	69.6	254.4	255.0	251.4	229.1
Louisiana	19.3	42.3	160.7[c]	273.2	266.4	221.2	178.0
Oklahoma	15.6	32.0	150.7	271.8	247.3	170.8	146.6
Texas	14.4	51.9	156.[illegible][d]	244.5[d]	232.9	165.4	147.0
Mountain	**14.3**	**38.2**	**172.6**	**301.1**	**278.6**	**214.9**	**171.7**
Arizona	17.1	28.0	b	291.1	b	b	b
Colorado	14.7	48.0	147.0	343.4	289.9	205.0	176.0
Idaho	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Montana	10.3	43.3	145.4	246.0	239.0	205.0	180.0
Nevada	0.0	0.0	0.0	0.0	0.0	0.0	0.0
New Mexico	14.3	40.5	175.8	271.5	261.8	187.0	166.0
Utah	15.1	48.0	111.7	408.2	351.5	289.6	188.0
Wyoming	14.7	33.7	192.0	331.7	300.6	252.0	176.0
Pacific	**31.0**	**56.7**	**210.7**	**264.0**	**232.5**	**194.4**	**171.4**
Alaska	24.6	30.2	73.2	72.9	73.5	50.1	94.5
California	32.1	70.0	217.0	379.9	336.5	289.4	236.8
Hawaii	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Oregon	0.0	0.0	240.0	278.1	240.2	200.0	144.7
Washington	0.0	0.0	0.0	0.0	0.0	0.0	0.0

a. Reflects price at first point of transfer, representing sales made by producers. The 1988 U.S. average wellhead price of natural gas is estimated to be 171.0¢.

b. Not available.

c. Value data is for the period beginning June 1, 1980 and ending May 31, 1981.

d. Weighted average value obtained from separate onshore and OCS average value calculations.

Source: U.S. Department of Energy, Energy Information Administration, *Natural Gas Annual*, 1987.

PRICES

TABLE 9-2
GAS UTILITY INDUSTRY AVERAGE PRICES BY CLASS OF SERVICE, 1966–1988

($/MMBtu)

Year	Total	Residential	Commercial	Industrial	Other
1966	$0.61	$1.00	$0.78	$0.35	$0.36
1967	0.61	1.00	0.78	0.35	0.36
1968	0.61	1.00	0.77	0.35	0.36
1969	0.62	1.01	0.78	0.36	0.39
1970	0.64	1.06	0.81	0.38	0.41
1971	0.68	1.12	0.85	0.41	0.38
1972	0.73	1.19	0.91	0.45	0.41
1973	0.79	1.25	0.95	0.50	0.44
1974	0.95	1.42	1.11	0.66	0.60
1975	1.29	1.69	1.38	0.99	0.94
1976	1.60	1.98	1.68	1.31	1.36
1977	1.97	2.33	2.07	1.69	1.74
1978	2.18	2.53	2.28	1.90	1.79
1979	2.52	2.92	2.66	2.23	1.94
1980	3.13	3.61	3.34	2.79	2.67
1981	3.65	4.16	3.91	3.29	3.46
1982	4.46	4.97	4.72	4.00	4.30
1983	5.12	5.88	5.51	4.41	4.92
1984	5.13	5.94	5.51	4.36	4.87
1985	5.02	5.95	5.44	4.10	4.79
1986	4.60	5.65	5.04	3.34	4.02
1987R	4.32	5.39	4.77	2.88	3.43
1988	4.31	5.29	4.63	2.85	3.36

R–Revised.

TABLE 9-3
GAS UTILITY INDUSTRY AVERAGE PRICES, BY STATE, 1970–1988[a]

($/MMBtu)

Division and State	1970	1975	1980	1985	1986	1987	1988
United States	**$0.64**	**$1.29**	**$3.13**	**$5.02**	**$4.60**	**$4.32**	**$4.31**
New England	**1.60**	**2.87**	**4.96**	**6.57**	**6.52**	**5.52**	**5.62**
Connecticut	1.60	2.93	4.99	7.28	6.96	6.22	6.12
Maine	2.23	3.04	5.15	7.44	7.06	6.45	5.80
Massachusetts	1.64	2.91	4.96	6.29	6.32	5.20	5.42
New Hampshire	1.54	2.21	4.25	6.70	6.33	6.03	5.41
Rhode Island	1.36	2.82	5.00	6.78	6.91	5.73	5.82
Vermont	2.22	2.06	5.66	5.71	5.14	5.01	4.61
Middle Atlantic	**1.06**	**1.97**	**3.98**	**6.31**	**6.09**	**5.59**	**5.40**
New Jersey	1.26	2.31	4.36	6.41	6.04	5.45	5.23
New York	1.21	2.14	4.43	6.57	6.51	5.96	5.83
Pennsylvania	0.87	1.68	3.45	5.94	5.63	5.25	5.02
East North Central	**0.74**	**1.34**	**3.17**	**5.27**	**4.92**	**4.73**	**4.65**
Illinois	0.73	1.35	3.26	5.05	4.54	4.37	4.13
Indiana	0.71	1.16	2.82	4.72	4.67	4.46	4.64
Michigan	0.78	1.43	3.06	5.66	5.19	5.01	4.92
Ohio	0.73	1.35	3.24	5.47	5.25	4.91	4.85
Wisconsin	0.80	1.31	3.42	5.36	5.18	5.19	5.16
West North Central	**0.56**	**1.00**	**2.68**	**4.61**	**4.21**	**3.91**	**4.05**
Iowa	0.62	1.04	2.81	4.61	4.20	3.80	4.04
Kansas	0.39	0.69	2.24	3.77	3.45	3.64	3.63
Minnesota	0.67	1.19	2.81	5.09	4.55	3.78	4.06
Missouri	0.54	1.18	3.04	4.98	4.56	4.25	4.37
Nebraska	0.51	0.90	2.34	4.33	4.01	3.79	3.90
North Dakota	0.82	1.26	3.57	5.28	4.93	4.89	4.47
South Dakota	0.71	1.05	2.81	5.07	4.57	4.18	4.20
South Atlantic	**0.72**	**1.39**	**3.28**	**5.29**	**4.75**	**4.62**	**4.44**
Delaware	0.93	1.73	3.46	5.53	5.18	4.67	4.46
District of Columbia	1.28	2.21	4.38	7.35	6.84	6.13	5.92
Florida	0.55	1.15	2.63	3.91	2.92	3.39	2.92
Georgia	0.57	1.12	3.17	5.31	5.15	5.08	5.16
Maryland	1.13	1.97	3.87	6.59	6.16	5.58	5.25
North Carolina	0.70	1.58	3.46	5.35	4.67	4.74	4.57
South Carolina	0.62	1.10	3.16	5.08	4.52	4.45	4.43
Virginia	0.95	1.78	3.58	5.93	5.36	4.93	4.74
West Virginia	0.64	1.24	3.27	5.65	5.55	4.66	4.62
East South Central	**0.51**	**1.03**	**2.85**	**4.55**	**4.38**	**4.25**	**4.16**
Alabama	0.52	1.04	3.11	4.81	4.63	4.70	4.52
Kentucky	0.67	1.11	2.90	4.90	4.56	4.24	4.16
Mississippi	0.38	0.95	2.71	3.93	4.01	4.29	4.19
Tennessee	0.53	1.00	2.69	4.51	4.24	3.84	3.83
West South Central	**0.35**	**0.99**	**2.53**	**3.89**	**3.36**	**2.95**	**3.08**
Arkansas	0.37	0.80	1.97	3.92	3.68	4.06	4.17
Louisiana	0.30	0.85	2.36	3.92	3.77	3.13	3.53
Oklahoma	0.46	0.79	2.05	3.73	3.94	3.58	3.34
Texas	0.35	1.10	2.72	3.91	3.23	2.78	2.89
Mountain	**0.49**	**0.99**	**2.84**	**4.66**	**4.47**	**4.34**	**4.36**
Arizona	0.57	1.19	2.82	4.81	4.74	4.74	5.26
Colorado	0.48	0.90	2.95	4.74	4.60	4.35	4.07
Idaho	0.67	1.48	4.03	5.19	5.10	4.36	4.77
Montana	0.54	1.03	3.03	4.64	4.17	3.93	3.81
Nevada	0.58	1.30	3.17	5.46	5.00	4.61	4.96
New Mexico	0.42	0.88	2.66	4.70	4.48	4.04	4.37
Utah	0.46	0.85	2.34	4.00	3.93	4.23	4.16
Wyoming	0.34	0.70	2.45	4.28	4.19	4.36	4.11
Pacific	**0.58**	**1.31**	**3.65**	**5.08**	**4.23**	**4.08**	**4.12**
Alaska	0.70	0.81	1.20	2.24	2.53	2.51	2.76
California	0.56	1.26	3.57	5.09	4.18	4.10	4.10
Hawaii	2.76	6.78	13.01	14.20	12.04	11.90	11.62
Oregon	0.74	1.80	4.64	5.61	5.06	4.63	5.44
Washington	0.65	1.55	4.33	5.38	4.71	3.81	4.02

a. Excludes sales for resale and revenues from sales for resale.

TABLE 9-4
GAS UTILITY INDUSTRY RESALE PRICES, BY STATE, 1970-1988[a]

($/MMBtu)

Division and State	1970	1975	1980	1985	1986	1987[R]	1988
United States	**$0.35**	**$0.80**	**$2.41**	**$3.82**	**$3.58**	**$3.31**	**$3.24**
New England	**0.62**	**1.41**	**2.84**	**4.10**	**3.50**	**3.05**	**3.34**
Connecticut	0.63	1.51	2.91	4.11	3.56	3.14	3.41
Maine	b	b	b	b	b	b	b
Massachusetts	0.61	1.35	2.81	4.09	3.51	3.05	3.32
New Hampshire	0.62	0.99	2.59	4.38	3.53	2.90	3.13
Rhode Island	0.59	1.59	2.94	4.03	3.36	3.06	3.35
Vermont	b	0.67	b	b	b	b	b
Middle Atlantic	**0.43**	**0.93**	**2.49**	**3.95**	**3.65**	**3.25**	**3.29**
New Jersey	0.44	0.99	2.45	3.71	3.23	2.91	2.96
New York	0.46	0.93	2.59	4.02	3.97	3.42	3.58
Pennsylvania	0.41	0.90	2.45	4.04	3.69	3.39	3.34
East North Central	**0.37**	**0.79**	**2.41**	**3.91**	**3.99**	**4.24**	**3.70**
Illinois	0.31	0.68	2.12	3.51	3.55	3.98	3.29
Indiana	0.37	0.72	2.14	4.02	3.67	3.55	3.46
Michigan	0.40	0.87	2.93	4.46	6.21	7.83	4.00
Ohio	0.39	0.84	2.39	4.13	4.27	4.10	3.94
Wisconsin	0.41	0.95	3.07	4.11	3.98	4.56	4.75
West North Central	**0.34**	**0.70**	**2.11**	**3.64**	**3.26**	**3.03**	**3.14**
Iowa	0.39	0.78	2.48	3.82	3.66	3.58	3.48
Kansas	0.26	0.53	1.78	2.98	2.65	2.86	2.88
Minnesota	0.37	0.75	2.32	3.93	3.37	2.86	3.19
Missouri	0.32	0.69	1.86	3.43	3.03	2.93	2.94
Nebraska	0.34	0.69	2.02	4.00	3.58	3.16	3.32
North Dakota	0.42	1.40	4.55	4.16	3.86	3.81	3.51
South Dakota	0.37	0.72	2.11	4.07	3.62	3.27	3.34
South Atlantic	**0.39**	**0.80**	**2.44**	**4.35**	**3.94**	**3.95**	**3.70**
Delaware	0.62	0.98	2.41	4.59	4.17	4.34	4.01
District of Columbia	b	b	b	b	b	b	b
Florida	0.38	0.66	2.31	3.31	2.59	2.71	2.51
Georgia	0.37	0.69	2.30	4.24	4.11	4.62	4.32
Maryland	0.45	1.05	2.61	4.40	4.18	3.83	4.08
North Carolina	0.24	0.81	2.66	4.17	4.18	3.49	3.51
South Carolina	0.45	0.68	2.32	4.11	3.92	3.88	3.66
Virginia	0.42	0.98	2.60	4.65	3.97	3.82	3.69
West Virginia	0.36	0.76	2.35	5.97	4.92	7.32	4.14
East South Central	**0.32**	**0.64**	**2.15**	**3.87**	**3.50**	**3.26**	**3.12**
Alabama	0.33	0.64	2.25	3.99	3.87	4.35	3.84
Kentucky	0.37	0.71	2.23	3.86	3.73	3.43	3.20
Mississippi	0.27	0.62	2.19	3.86	3.91	4.15	3.80
Tennessee	0.29	0.61	2.04	3.80	3.16	2.69	2.78
West South Central	**0.21**	**0.63**	**2.15**	**3.46**	**3.21**	**2.51**	**2.46**
Arkansas	0.30	0.58	2.17	2.91	2.66	1.78	2.24
Louisiana	0.22	0.62	2.09	3.60	4.19	2.88	2.77
Oklahoma	0.20	0.62	2.05	3.10	2.66	1.76	2.00
Texas	0.20	0.64	2.21	3.45	2.90	2.50	2.41
Mountain	**0.32**	**0.71**	**2.37**	**3.54**	**3.27**	**3.14**	**3.38**
Arizona	0.33	0.70	2.26	3.47	3.10	3.11	3.44
Colorado	0.26	0.58	2.51	3.63	3.41	3.26	3.54
Idaho	0.34	1.14	3.43	3.68	3.08	2.77	3.43
Montana	0.46	0.95	3.42	4.12	3.91	3.64	3.49
Nevada	0.51	1.28	3.64	4.96	4.10	3.64	3.64
New Mexico	0.20	0.48	1.91	2.98	2.95	2.75	2.74
Utah	0.20	0.42	1.83	3.66	3.53	3.18	3.01
Wyoming	0.23	0.97	3.03	4.35	4.78	2.74	2.60
Pacific	**0.34**	**1.10**	**3.39**	**3.56**	**2.83**	**2.35**	2.37
Alaska	b	b	0.83	b	b	b	b
California	0.37	0.85	2.75	3.95	3.20	2.66	2.79
Hawaii	b	b	b	b	b	b	b
Oregon	0.30	1.27	4.29	3.39	2.60	2.14	2.16
Washington	0.32	1.11	3.40	3.60	3.09	2.83	3.08

a. Resale prices approximate city-gate prices.
b. No sales reported.
R—Revised

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TABLE 9-5
AVERAGE GAS PRICES OF WELLHEAD, CITY GATE, AND END-USER LEVEL
1966–1988

Year	Wellhead ($/Mcf[b])	City Gate[a] ($/MMBtu[b])	Cost to the Ultimate Customer ($/MMBtu[b])
1966	$0.157	$0.333	$0.612
1967	0.160	0.330	0.612
1968	0.164	0.328	0.607
1969	0.167	0.334	0.616
1970	0.171	0.354	0.641
1971	0.182	0.389	0.681
1972	0.186	0.429	0.730
1973	0.216	0.463	0.788
1974	0.304	0.573	0.953
1975	0.445	0.798	1.285
1976	0.580	0.984	1.590
1977	0.790	1.308	1.974
1978	0.905	1.466	2.184
1979	1.178	1.812	2.522
1980	1.588	2.414	3.134
1981	1.982	2.885	3.650
1982	2.457	3.598	4.456
1983	2.593	4.041	5.121
1984	2.655	3.890	5.128
1985	2.511	3.821	5.017
1986	1.942	3.579	4.602
1987R	1.665	3.305	4.315
1988	1.710	3.244	4.313

a. Resale prices approximate city-gate prices. See Table 9-4.
b. Mcf and MMBtu prices are roughly comparable. On a MMBtu basis, the wellhead price would be slightly less.
R–Revised.
Source: For wellhead price, *Monthly Energy Review.*

TABLE 9-6
GAS UTILITY INDUSTRY AVERAGE PRICES, BY STATE AND CLASS OF SERVICE, 1988

($/MMBtu)

Division and State	Total	Class of Service Residential	Commercial	Industrial	Electric Generation	Other
United States	**$4.31**	**$5.29**	**$4.63**	**$3.04**	**$2.54**	**$3.36**
New England	**5.62**	**6.79**	**5.47**	**3.81**	**2.41**	**4.44**
Connecticut	6.12	7.63	5.45	3.92	b	7.07
Maine	5.80	7.25	6.25	4.51	a	a
Massachusetts	5.42	6.58	5.41	3.68	2.43	4.48
New Hampshire	5.41	6.00	5.43	3.66	2.40	5.90
Rhode Island	5.82	6.47	6.25	4.39	2.18	2.94
Vermont	4.61	5.83	4.71	2.99	a	6.67
Middle Atlantic	**5.40**	**6.06**	**5.19**	**3.68**	**2.58**	**4.64**
New Jersey	5.23	6.05	5.04	3.72	2.50	4.55
New York	5.83	6.41	5.40	4.13	2.77	4.61
Pennsylvania	5.02	5.61	5.08	3.38	2.74	4.73
East North Central	**4.65**	**4.90**	**4.44**	**3.78**	**3.49**	**3.84**
Illinois	4.13	4.36	4.00	3.27	3.37	4.42
Indiana	4.64	5.04	4.51	3.68	3.71	3.95
Michigan	4.92	5.04	4.73	4.40	4.03	4.40
Ohio	4.85	5.07	4.67	3.99	3.26	3.94
Wisconsin	5.16	5.85	4.52	4.26	3.42	2.90
West North Central	**4.05**	**4.56**	**3.99**	**2.95**	**2.67**	**3.13**
Iowa	4.04	4.73	3.98	2.90	2.66	4.62
Kansas	3.63	4.00	3.62	2.79	2.55	2.80
Minnesota	4.06	4.65	4.21	2.81	2.47	3.78
Missouri	4.37	4.72	4.12	3.48	3.09	3.18
Nebraska	3.90	4.43	3.85	2.97	2.60	2.61
North Dakota	4.47	4.86	4.21	3.49	b	b
South Dakota	4.20	4.76	4.06	3.02	4.21	a
South Atlantic	**4.44**	**5.96**	**4.95**	**3.36**	**2.10**	**4.01**
Delaware	4.46	5.83	4.79	3.36	2.22	3.00
District of Columbia	5.92	6.90	5.26	a	a	a
Florida	2.92	6.78	4.62	2.90	2.09	3.61
Georgia	5.16	6.21	5.34	3.46	2.79	4.76
Maryland	5.25	5.80	4.95	4.24	2.42	3.03
North Carolina	4.57	6.02	4.98	3.49	3.37	3.40
South Carolina	4.43	6.47	5.34	3.34	3.37	4.71
Virginia	4.74	5.71	4.56	3.28	a	4.54
West Virginia	4.62	5.03	4.62	2.49	2.25	5.22
East South Central	**4.16**	**5.14**	**4.48**	**2.98**	**2.50**	**3.96**
Alabama	4.52	6.37	4.92	2.86	2.50	4.96
Kentucky	4.16	4.42	4.19	3.41	a	3.69
Mississippi	4.19	5.78	5.10	2.67	2.75	4.48
Tennessee	3.83	4.49	4.22	3.13	2.36	3.43
West South Central	**3.08**	**5.03**	**4.33**	**2.13**	**2.41**	**2.52**
Arkansas	4.17	4.79	4.36	3.42	3.60	3.01
Louisiana	3.5[illegible]	5.48	5.12	2.48	1.76	2.33
Oklahoma	3.3[illegible]	4.36	4.00	1.75	2.77	2.69
Texas	2.8[illegible]	5.18	4.27	2.07	2.38	2.64
Mountain	**4.36**	**4.88**	**4.13**	**3.30**	**2.48**	**3.57**
Arizona	5.26	6.76	4.91	3.52	1.79	3.68
Colorado	4.07	4.35	3.81	3.73	2.35	3.32
Idaho	4.77	5.43	4.55	3.73	a	a
Montana	3.81	4.01	4.00	2.98	4.44	3.88
Nevada	4.96	5.89	4.71	3.56	2.95	4.87
New Mexico	4.37	4.92	4.02	3.25	3.22	3.41
Utah	4.16	4.74	3.81	2.89	2.82	b
Wyoming	4.11	4.47	4.05	3.16	2.65	b
Pacific	**4.12**	**5.29**	**5.02**	**3.28**	**2.82**	**3.80**
Alaska	2.76	3.50	2.94	1.50	2.13	a
California	4.10	5.27	5.17	3.30	2.85	3.79
Hawaii	11.62	15.50	9.87	12.20	a	a
Oregon	5.44	6.57	5.37	3.84	a	a
Wasington	4.02	5.33	4.41	2.86	b	3.88

a. No sales reported.
b. Less than 0.05 trillion Btu in sales.

TABLE 9-7
AVERAGE RESIDENTIAL GAS PRICES, BY STATE, 1970–1988

($/MMBtu)

Division and State	1970	1975	1980	1985	1986	1987	1988
United States	**$1.06**	**$1.69**	**$3.61**	**$5.95**	**$5.65**	**$5.39**	**$5.29**
New England	**1.88**	**3.22**	**5.48**	**7.90**	**7.57**	**6.83**	**6.79**
Connecticut	1.93	3.27	5.73	8.89	8.61	7.94	7.63
Maine	2.89	4.25	6.35	8.80	8.26	7.74	7.25
Massachusetts	1.87	3.20	5.41	7.61	7.22	6.44	6.58
New Hampshire	1.77	2.46	4.55	7.26	6.86	6.63	6.00
Rhode Island	1.76	3.16	5.48	7.80	7.53	6.76	6.47
Vermont	1.78	2.80	6.43	6.53	6.51	6.39	5.83
Middle Atlantic	**1.34**	**2.26**	**4.45**	**7.17**	**6.90**	**6.36**	**6.06**
New Jersey	1.62	2.59	4.89	7.28	7.04	6.41	6.05
New York	1.38	2.43	4.86	7.62	7.36	6.69	6.41
Pennsylvania	1.17	1.90	3.76	6.52	6.22	5.88	5.61
East North Central	**0.99**	**1.56**	**3.37**	**5.74**	**5.34**	**5.04**	**4.90**
Illinois	1.02	1.58	3.46	5.37	4.88	4.63	4.36
Indiana	1.05	1.45	3.12	5.49	5.39	4.98	5.04
Michigan	1.00	1.60	3.15	6.03	5.46	5.20	5.04
Ohio	0.89	1.51	3.45	5.82	5.53	5.13	5.07
Wisconsin	1.21	1.71	3.80	6.39	6.13	5.95	5.85
West North Central	**0.92**	**1.37**	**3.08**	**5.24**	**4.85**	**4.51**	**4.56**
Iowa	0.96	1.41	3.20	5.32	5.02	4.65	4.73
Kansas	0.69	0.97	2.37	4.12	3.87	4.06	4.00
Minnesota	1.08	1.59	3.24	5.75	5.20	4.53	4.65
Missouri	0.93	1.45	3.37	5.47	5.05	4.66	4.72
Nebraska	0.86	1.26	2.71	4.97	4.53	4.31	4.43
North Dakota	1.05	1.50	3.83	5.59	5.28	5.47	4.86
South Dakota	1.04	1.40	3.11	5.62	5.14	4.73	4.76
South Atlantic	**1.23**	**2.02**	**4.15**	**6.71**	**6.51**	**6.27**	**5.96**
Delaware	1.50	2.34	4.15	6.80	6.85	6.15	5.83
District of Columbia	1.44	2.40	4.56	7.96	7.55	7.16	6.90
Florida	1.81	2.78	4.85	7.33	7.08	7.42	6.78
Georgia	0.98	1.75	4.06	6.44	6.46	6.30	6.21
Maryland	1.43	2.31	4.40	7.14	6.66	6.30	5.80
North Carolina	1.29	2.02	4.00	6.41	6.40	6.53	6.02
South Carolina	1.34	2.08	4.13	6.53	6.44	6.47	6.47
Virginia	1.42	2.29	4.24	7.07	6.47	5.90	5.71
West Virginia	0.87	1.47	3.62	5.97	5.97	5.61	5.03
East South Central	**0.92**	**1.43**	**3.37**	**5.47**	**5.31**	**5.25**	**5.14**
Alabama	1.10	1.72	4.10	6.24	6.28	6.44	6.37
Kentucky	0.84	1.30	3.08	5.27	4.83	4.49	4.42
Mississippi	0.88	1.41	3.39	5.34	5.48	5.86	5.78
Tennessee	0.89	1.33	2.94	4.96	4.83	4.61	4.49
West South Central	**0.85**	**1.35**	**3.00**	**5.23**	**5.03**	**4.93**	**5.03**
Arkansas	0.78	1.12	2.36	4.35	4.27	4.55	4.79
Louisiana	0.75	1.32	3.07	5.48	5.50	5.41	5.48
Oklahoma	0.80	1.15	2.38	4.45	4.79	4.53	4.36
Texas	0.92	1.47	3.30	5.59	5.12	4.98	5.18
Mountain	**0.83**	**1.34**	**3.23**	**5.29**	**5.04**	**4.83**	**4.88**
Arizona	1.14	1.83	3.74	6.66	6.19	5.87	6.76
Colorado	0.71	1.16	3.21	5.11	4.99	4.67	4.35
Idaho	1.34	2.25	4.94	6.56	6.00	5.45	5.43
Montana	0.84	1.18	2.88	4.51	4.21	4.08	4.01
Nevada	1.31	1.81	3.97	6.55	5.89	5.23	5.89
New Mexico	0.84	1.37	3.21	5.69	5.30	4.68	4.92
Utah	0.70	1.12	2.68	4.52	4.38	4.62	4.74
Wyoming	0.65	0.99	2.94	4.97	4.86	4.74	4.47
Pacific	**0.97**	**1.58**	**3.51**	**5.56**	**5.08**	**5.16**	**5.29**
Alaska	1.42	1.48	1.73	2.85	3.27	3.25	3.50
California	0.93	1.52	3.38	5.51	4.97	5.14	5.27
Hawaii	3.56	7.97	14.58	17.69	15.80	15.72	15.50
Oregon	1.44	2.41	5.36	6.73	6.49	6.46	6.57
Washington	1.29	2.12	4.91	6.44	5.91	5.24	5.33

TABLE 9-8
AVERAGE ANNUAL RESIDENTIAL GAS BILLS, BY STATE, 1970-1988

($/Customer)

Division and State	1970	1975	1980	1985	1986	1987	1988
United States	**$137**	**$206**	**$401**	**$585**	**$531**	**$499**	**$516**
New England	**162**	**274**	**493**	**702**	**694**	**637**	**646**
Connecticut	169	285	505	762	790	740	742
Maine	110	165	274	390	381	355	345
Massachusetts	163	276	494	684	662	600	620
New Hampshire	165	234	444	688	684	635	572
Rhode Island	146	266	474	696	691	641	630
Vermont	116	261	661	687	696	663	614
Middle Atlantic	**144**	**231**	**488**	**679**	**674**	**619**	**622**
New Jersey	150	229	439	640	638	598	593
New York	126	217	441	663	662	599	603
Pennsylvania	172	257	501	736	723	671	680
East North Central	**174**	**287**	**535**	**787**	**712**	**630**	**672**
Illinois	169	266	562	792	707	612	636
Indiana	168	220	449	673	639	558	616
Michigan	189	268	545	879	764	680	728
Ohio	172	259	547	766	721	656	690
Wisconsin	175	238	497	744	666	590	668
West North Central	**154**	**209**	**405**	**615**	**529**	**447**	**508**
Iowa	161	215	408	619	551	453	531
Kansas	114	145	301	457	383	390	417
Minnesota	190	255	450	743	633	468	569
Missouri	155	215	449	617	540	469	510
Nebraska	145	195	350	588	484	418	477
North Dakota	179	245	489	696	593	528	561
South Dakota	159	203	365	651	549	438	503
South Atlantic	**136**	**194**	**386**	**524**	**521**		**503**
Delaware	164	219	388	552	599	540	540
District of Columbia	147	230	472	719	743	693	692
Florida	87	107	194	238	233	251	243
Georgia	122	181	393	526	502	519	515
Maryland	158	225	425	607	609	561	541
North Carolina	144	188	388	491	499	554	514
South Carolina	122	151	319	380	391	440	441
Virginia	157	230	423	596	580	547	543
West Virginia	140	219	473	650	681	623	588
East South Central	**116**	**153**	**345**	**465**	**440**	**445**	**456**
Alabama	118	157	356	460	448	481	487
Kentucky	132	177	401	549	500	460	487
Mississippi	92	122	291	393	379	429	430
Tennessee	113	140	299	423	404	395	400
West South Central	**89**	**130**	**253**	**392**	**341**	**358**	**369**
Arkansas	103	128	226	379	340	387	429
Louisiana	72	108	236	362	343	361	361
Oklahoma	102	138	246	424	405	383	399
Texas	89	135	265	394	325	346	354
Mountain	**117**	**175**	**336**	**498**	**419**	**406**	**424**
Arizona	89	141	221	363	289	311	351
Colorado	111	171	385	509	434	429	427
Idaho	154	249	393	534	457	380	389
Montana	148	203	363	558	449	406	433
Nevada	148	204	347	480	371	355	407
New Mexico	109	173	318	480	418	399	419
Utah	148	201	373	610	535	500	519
Wyoming	117	160	378	610	515	461	486
Pacific	**103**	**174**	**286**	**420**	**329**	**346**	**346**
Alaska	282	328	375	586	598	584	634
California	97	166	272	405	313	337	333
Hawaii	120	232	364	360	310	308	296
Oregon	163	258	428	562	465	437	488
Washington	165	259	469	605	527	429	468

TABLE 9-9
AVERAGE RESIDENTIAL CONSUMPTION AND COSTS
1966–1988[a]

	Gas				
Year	Consumption (MMBtu/ Customer)	Annual Bill ($/Customer)	Price ($/MMBtu)	Electric Price ($/MMBtu)	Number 2 Fuel Oil Price ($/MMBtu)
1966	118.8	$119.38	$1.00	$6.45	$1.18
1967	121.5	122.03	1.00	6.36	1.21
1968	124.1	124.48	1.00	6.21	1.25
1969	128.4	130.08	1.01	6.13	1.28
1970	129.2	136.69	1.06	6.15	1.33
1971	129.9	145.28	1.12	6.42	1.41
1972	130.4	154.56	1.19	6.71	1.42
1973	124.5	155.73	1.25	6.98	1.64
1974	119.6	169.82	1.42	8.29	2.60
1975	121.9	206.24	1.69	9.40	2.81
1976	121.3	240.48	1.98	10.11	3.01
1977	118.7	276.87	2.33	11.08	3.42
1978	121.0	307.40	2.53	11.81	3.66
1979	118.6	346.39	2.92	12.69	5.24
1980	111.0	400.84	3.61	14.45	7.21
1981	104.4	434.43	4.16	17.00	8.95
1982	107.1	531.96	4.97	18.90	8.70
1983	99.1	583.00	5.88	20.01	7.92
1984	102.0	605.80	5.94	20.93	8.08
1985	98.3	584.90	5.95	21.69	7.78
1986	94.0	531.51	5.65	21.86	6.02
1987[R]	92.6	498.75	5.39	21.83	6.13
1988	97.5	515.56	5.29	21.95	6.10

a. Prices given are for total usage.
R–Revised.
Sources: For electric price, Edison Electric Institute *Statistical Yearbook*. For oil price, Bureau of Labor Statistics.

TABLE 9-10
AVERAGE RESIDENTIAL GAS PRICES BY CENSUS DIVISION
HEATING SEASON—NOVEMBER THRU MARCH

($/MMBtu)

	1982–83	1983–84	1984–85	1985–86	1986–87	1987–88	1988–89[a]
Total U.S.	$5.56	$5.71	$5.81	$5.54	$5.16	$4.98	$5.36
NE	8.39	7.47	7.70	7.41	6.69	6.50	6.88
MA	6.02	6.65	6.87	6.75	6.18	5.71	6.06
ENC	5.12	5.47	5.59	5.27	4.84	4.69	4.92
WNC	5.35	5.27	5.18	4.82	4.19	4.30	4.35
SA	6.12	6.46	6.46	6.35	6.21	5.58	5.93
ESC	5.38	5.22	5.34	5.08	4.89	4.89	4.86
WSC	4.87	5.00	4.99	4.83	4.48	4.53	4.85
M	5.13	5.21	5.20	5.01	4.61	4.52	4.57
P	4.98	5.46	5.68	5.54	4.97	5.11	5.30

a. Data used for 1989 was based on the *Quarterly Report of Gas Industry Operations.*

TABLE 9-11
AVERAGE GAS CONSUMPTION BY HOUSEHEATING CUSTOMERS BY CENSUS DIVISION
HEATING SEASON—NOVEMBER THRU MARCH

(MMBtu/Customer)

	1982–83	1983–84	1984–85	1985–86	1986–87	1987–88	1988–89[a]
Total U.S.	70.7	78.2	75.3	72.9	70.1	73.8	70.9
NE	75.2	85.2	80.6	84.8	84.2	86.5	86.3
MA	89.8	101.7	95.4	97.2	97.4	93.7	97.7
ENC	92.2	108.7	101.3	103.4	94.3	100.7	97.2
WNC	77.8	89.1	87.4	86.5	71.9	82.3	81.1
SA	60.6	67.5	60.7	61.6	61.5	64.7	62.3
ESC	60.3	70.1	64.2	60.3	60.2	63.7	62.0
WSC	54.9	60.9	54.5	48.6	53.9	57.4	54.2
M	62.8	64.5	63.9	58.7	58.5	63.9	61.0
P	47.4	41.8	50.3	41.3	41.7	42.1	43.1

a. Data used for 1989 was based on the *Quarterly Report of Gas Industry Operations.*

TABLE 9-12
AVERAGE GAS BILL FOR HOUSEHEATING CUSTOMERS BY CENSUS DIVISION
HEATING SEASON—NOVEMBER THRU MARCH

($/Customer)

	1982–83	1983–84	1984–85	1985–86	1986–87	1987–88	1988–89[a]
Total U.S.	$393	$447	$437	$404	$362	$368	$380
NE	631	636	621	628	563	563	594
MA	541	677	656	656	602	535	593
ENC	472	594	567	545	457	472	478
WNC	416	469	453	417	301	354	353
SA	371	436	392	391	382	361	370
ESC	325	366	342	306	294	312	301
WSC	267	304	272	235	241	260	263
M	322	336	332	294	269	289	279
P	236	228	286	208	208	215	229

a. Data used for 1989 was based on the *Quarterly Report of Gas Industry Operations.*

TABLE 9-13
GAS UTILITY INDUSTRY AVERAGE PRICES, FOR GAS USED FOR ELECTRIC GENERATION, BY STATE, 1982–1988

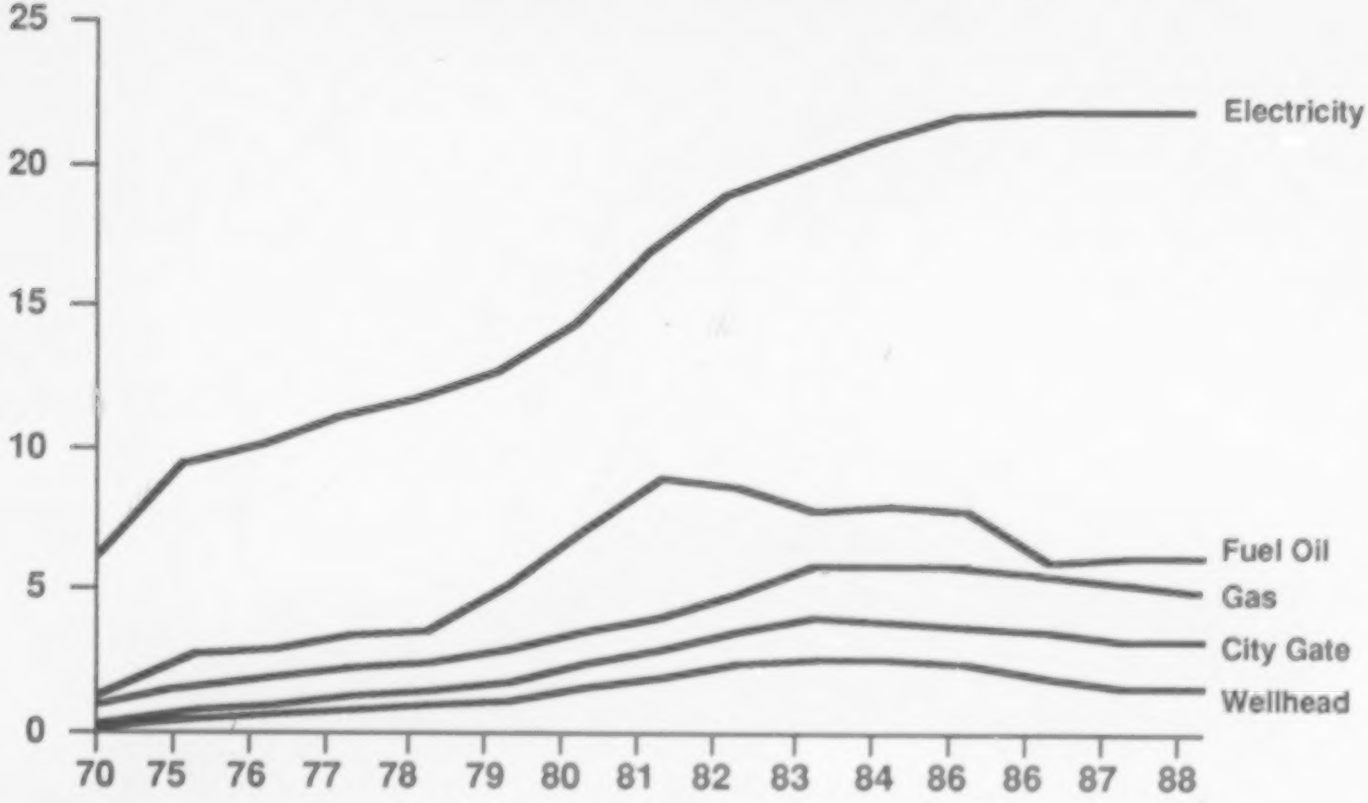
($/MMBtu)

Division and State	1982	1983	1984	1985	1986	1987R	1988
United States	**$4.09**	**$4.20**	**$4.22**	**$3.81**	**$2.72**	**$2.51**	**$2.55**
New England	**4.20**	**3.93**	**4.01**	**3.54**	**2.36**	**2.37**	**2.41**
Connecticut	a	a	a	a	b	b	b
Maine	a	a	a	a	a	a	a
Massachusetts	4.21	3.95	4.02	3.54	2.32	2.47	2.43
New Hampshire	a	a	a	a	a	a	2.40
Rhode Island	4.09	3.69	3.86	3.57	3.34	2.35	2.18
Vermont	a	a	a	a	a	a	a
Middle Atlantic	**4.36**	**4.41**	**4.23**	**3.92**	**2.91**	**2.74**	**2.58**
New Jersey	4.59	4.38	4.35	4.05	2.88	2.55	2.51
New York	5.42	6.57	4.18	3.86	2.91	3.00	2.77
Pennsylvania	3.58	4.89	5.04	4.66	4.73	2.22	2.74
East North Central	**4.31**	**4.83**	**4.73**	**4.91**	**4.36**	**3.59**	**3.49**
Illinois	4.33	4.98	4.90	5.17	4.62	3.65	3.37
Indiana	3.54	4.28	4.17	4.14	3.82	3.48	3.71
Michigan	4.34	4.65	4.65	4.96	4.31	3.94	4.03
Ohio	4.23	5.05	5.59	4.86	4.47	2.96	3.26
Wisconsin	4.27	4.42	4.17	4.17	3.67	3.59	3.42
West North Central	**2.83**	**3.47**	**3.36**	**3.18**	**2.77**	**2.59**	**2.67**
Iowa	3.71	3.84	3.86	3.82	3.54	2.60	2.66
Kansas	2.64	3.33	3.16	2.89	2.45	2.60	2.55
Minnesota	3.41	3.86	3.94	3.90	3.31	2.09	2.47
Missouri	3.99	4.42	3.81	3.26	2.76	3.06	3.09
Nebraska	3.13	3.30	3.40	3.50	3.26	2.77	2.60
North Dakota	b	b	b	b	b	b	b
South Dakota	a	a	b	b	b	2.47	4.21
South Atlantic	**3.22**	**3.19**	**3.43**	**3.33**	**2.12**	**2.70**	**2.10**
Delaware	a	a	a	3.99	2.50	2.30	2.22
District of Columbia	a	a	a	a	a	a	a
Florida	3.20	3.16	3.42	3.32	2.10	2.74	2.09
Georgia	3.87	4.06	4.31	4.21	2.07	2.18	2.79
Maryland	4.22	a	a	b	2.54	2.64	2.42
North Carolina	4.02	4.69	4.76	b	2.65	3.38	3.37
South Carolina	4.22	4.44	a	4.50	3.47	2.78	3.37
Virginia	a	a	a	a	2.84	a	a
West Virginia	4.47	4.92	4.48	3.62	2.11	2.25	2.25
East South Central	**3.19**	**3.97**	**2.88**	**2.81**	**2.74**	**3.13**	**2.80**
Alabama	b	b	3.69	4.05	3.53	2.59	2.50
Kentucky	a	a	a	a	a	a	a
Mississippi	3.19	3.57	2.88	2.81	2.73	3.15	2.75
Tennessee	b	a	3.48	b	b	b	2.36
West South Central	**3.83**	**3.93**	**3.88**	**3.48**	**2.71**	**2.31**	**2.41**
Arkansas	3.18	3.52	3.69	3.61	2.80	3.57	3.60
Louisiana	3.53	3.78	3.66	3.57	2.89	1.94	1.77
Oklahoma	2.80	3.16	2.79	2.75	3.53	2.99	2.77
Texas	3.97	3.98	3.92	3.49	2.70	2.33	2.38
Mountain	**3.63**	**3.84**	**4.02**	**3.63**	**3.16**	**3.01**	**2.48**
Arizona	3.63	3.38	4.04	3.59	2.81	2.90	1.79
Colorado	3.80	4.28	3.89	3.62	3.08	2.84	2.35
Idaho	a	a	a	a	a	a	a
Montana	b	b	5.41	0.76	b	5.07	4.44
Nevada	4.16	4.84	4.54	4.21	3.86	3.76	2.95
New Mexico	3.28	3.53	3.68	3.41	3.42	2.77	3.22
Utah	a	a	a	3.83	2.39	3.34	2.82
Wyoming	a	a	a	4.60	2.88	2.66	2.65
Pacific	**4.95**	**4.98**	**4.99**	**4.40**	**2.88**	**2.68**	**2.83**
Alaska	.95	1.43	1.57	1.69	1.97	1.88	2.13
California	5.07	5.11	5.09	4.48	2.91	2.68	2.85
Hawaii	a	a	a	a	a	a	a
Oregon	b	b	b	a	a	a	a
Washington	7.54	b	a	b	b	b	b

a. No sales reported.
b. Less than 0.05 trillion Btu in sales.
R–Revised.

CHART 9-1

RESIDENTIAL PRICES OF FUELS & ELECTRICITY
(DOLLARS/MILLION BTU)



REFERENCE: TABLES 9-5, 9-9

TABLE 9-15
INDEXES OF WHOLESALE PRICES OF GAS, YEARLY AVERAGES, 1966-1988 AND MONTHLY AVERAGES, 1988

(1982–1984 = 100)

Year and Month	All Gas	Utility Gas	Liquefied Petroleum Gas
1966	9.1	a	a
1967	9.4	0.0	a
1968	8.7	7.6	a
1969	8.8	7.7	a
1970	9.8	7.9	a
1971	10.2	8.4	15.2
1972	10.8	9.0	14.9
1973	11.9	9.8	18.0
1974	15.3	11.6	29.2
1975	20.4	16.1	35.2
1976	27.0	21.8	45.8
1977	36.6	30.8	57.3
1978	40.4	36.5	54.7
1979	51.3	47.6	64.7
1980	71.7	63.3	102.3
1981	88.6	82.1	112.0
1982	100.0	100.0	100.0
1983	108.1	106.6	113.5
1984	104.5	106.1	99.1
1985	98.7	102.9	86.3
1986	83.2	89.6	61.0
1987	74.1	79.5	57.4
1988	71.4	77.4	51.6
January	73.3	79.0	55.0
February	71.7	77.5	52.6
March	72.3	77.9	54.1
April	74.5	80.7	54.1
May	72.0	77.4	55.3
June	69.8	74.4	55.9
July	71.1	76.6	53.7
August	68.7	74.6	49.3
September	69.0	75.0	49.2
October	71.7	78.6	47.7
November	70.5	77.6	45.9
December	71.7	78.9	46.6

a. Not Available.

Source: Bureau of Labor Statistics, *Producer Prices and Price Index*, 1988. Represents unofficial estimates of U.S. Bureau of Labor Statistics, based on wellhead prices for natural gas by 20 major pipeline companies, and L.P.G. price quotations from 2 major producers.

SECTION 10
ENERGY CONSUMPTION

	1988	% Change 88/87
Average Annual Consumption		
(Millions of Btu per Customer)		
Total	204.0	−0.2
Residential	97.5	+5.3
Commercial	566.3	+4.5
Industrial	21,048.3	−1.5
Other	3,071.8	+6.5

TABLE 10-1

ANNUAL CONSUMPTION OF ENERGY RESOURCES IN THE UNITED STATES, BY MAJOR SOURCES, BY CONSUMING SECTORS, 1981–1988[a]

(Trillions of Btu)

Consuming Sectors	Coal and Coke	Natural gas dry[b]	Petroleum[c]	Hydropower[d]	Nuclear power[d]	Other[e]	Total gross energy inputs[f]	Utility electricity purchased[g]	Total Sector energy inputs
Household and commercial:									
1981	167	7,243	2,634	—	—	—	10,044	4,497	14,541
1982	187	7,427	2,449	—	—	—	10,063	4,566	14,629
1983	192	7,025	2,498	—	—	—	9,715	4,680	14,395
1984[R]	209	7,291	2,585	—	—	—	10,086	4,922	15,008
1985[R]	176	7,078	2,573	—	—	—	9,827	5,072	14,899
1986[R]	176	6,824	2,576	—	—	—	9,576	5,251	14,827
1987[R]	162	6,938	2,618	—	—	—	9,718	5,481	15,199
1988[P]	177	7,540	2,700	—	—	—	10,417	5,727	16,144
Industrial:									
1981[R]	3,141[h]	8,257	8,285	33	—	—	19,716	2,817	22,533
1982[R]	2,530[h]	7,116	7,794	33	—	—	17,473	2,542	20,015
1983[R]	2,474[h]	6,821	7,423	33	—	—	16,751	2,648	19,399
1984[R]	2,831[h]	7,449	7,897	33	—	—	18,210	2,862	21,071
1985[R]	2,747[h]	7,080	7,715	33	—	—	17,575	2,850	20,423
1986[R]	2,626[h]	6,693	7,939	32	—	—	17,290	2,758	20,048
1987[R]	2,682[h]	7,264	8,189	32	—	—	18,167	2,884	21,052
1988[P]	2,837[h]	7,778	8,443	32	—	—	19,090	3,016	22,106
Transportation:[i]									
1981[R]	—	658	18,811	—	—	—	19,469	11	19,480
1982[R]	—	612	18,420	—	—	—	19,032	11	19,043
1983[R]	—	505	18,589	—	—	—	19,094	11	19,105
1984[R]	—	545	19,283	—	—	—	19,828	13	19,841
1985[R]	—	519	19,544	—	—	—	20,063	14	20,077
1986[R]	—	499	20,229	—	—	—	20,728	12	20,740
1987[R]	—	535	20,801	—	—	—	21,336	13	21,349
1988[P]	—	561	21,255	—	—	—	21,816	12	21,828
Electricity generation, utilities									
1981	12,583	3,768	2,202	3,072	3,008	127	24,760	(7,325)	—
1982[R]	12,582	3,342	1,568	3,539	3,131	108	24,270	(7,119)	—
1983[R]	13,213	2,998	1,544	3,866	3,203	133	24,957	(7,339)	—
1984[R]	14,020	3 220	1,286	3,725	3,553	174	25,978	(7,797)	—
1985[R]	14,542	3,160	1,090	3,330	4,149	213	26,484	(7,936)	—
1986[R]	14,444	2,691	1,452	3,353	4,471	231	26,642	(8,021)	—
1987[R]	15,173	2,935	1,257	3,035	4,906	244	27,550	(8,378)	—
1988[P]	15,850	2,719	1,561	2,583	5,678	236	28,628	(8,755)	—
Unaccounted for:									
1981	—	—	—	—	—	—	—	—	—
1982	—	8	—	—	—	—	8	—	—
1983	(1)	9	—	—	—	—	8	—	—
1984	—	—	—	—	—	—	—	—	—
1985	—	—	—	—	—	—	—	—	—
1986	—	—	—	—	—	—	—	—	—
1987[R]	—	—	—	—	—	—	—	—	—
1988[P]	—	—	—	—	—	—	—	—	—
Total gross energy inputs:									
1981[R]	15,907	19,928	31,931	3,105	3,008	111	73,990	—	56,555
1982[R]	15,322	18,505	30,231	3,572	3,131	86	70,847	—	53,696
1983[R]	15,894	17,357	30,054	3,899	3,203	118	70,525	—	52,907
1984[R]	17,070	18,507	31,051	3,757	3,553	163	74,101	—	55,920
1985[R]	17,478	17,834	30,922	3,363	4,149	199	73,945	—	55,397
1986[R]	17,262	16,708	32,196	3,385	4,471	215	74,237	—	55,616
1987[R]	18,008	17,668	32,865	3,068	4,906	253	76,768	—	57,596
1988[P]	18,825	18,595	33,959	2,615	5,678	276	79,948	—	60,075

a. Gross energy is the total of inputs into the economy of the primary fuels (including imports) or their derivatives, plus the generation of hydro, nuclear power and other (converted to equivalent energy inputs).

b. Excludes natural gas liquids.

c. Petroleum products including still gas, liquefied refinery gas and natural gas liquids.

d. Outputs and hydropower (adjusted for net imports or net exports) are converted to theoretical energy inputs using 10,320 Btu per net KWH for 1987. Energy input for nuclear power converted at an average heat rate of 10,807 Btu per net KWH. Excludes inputs for power generation by non-utility plants, which are included within the other consuming sectors.

e. Includes geothermal power and electricity produced from wood and waste.

f. Gross energy resource inputs with electricity generation shown as separate consuming sector.

g. Utility electricity generated and imported, distributed to the other consuming sectors as energy resource inputs.

h. Includes net imports of coke of −16 trillion Btu in 1981, −22 trillion Btu in 1982, −16 trillion Btu in 1983, −11 trillion Btu in 1984, −13 trillion Btu in 1985, −17 trillion Btu in 1986, 9 trillion Btu in 1987, and 40 trillion Btu in 1988.

i. Includes bunkers and military transportation.

R–Revised. P–Preliminary.

Source: U.S. Department of Energy, Energy Information Administration, *Monthly Energy Review*.

TABLE 10-2

ANNUAL CONSUMPTION OF FOSSIL ENERGY RESOURCES, AND ELECTRICITY FROM HYDROPOWER AND NUCLEAR POWER, IN THE UNITED STATES, 1966–1988[a]

(Trillions of Btu)

Year	Natural Gas Dry[b,c]	Natural Gas Liquids	Crude Petroleum and Products	Bituminous Coal and Lignite[d]	Anthracite Coal	Hydropower[e]	Nuclear[e]	Other[f]	Grand Total Energy
1966	17,393	1,989	22,405	12,740	290	2,073	58	g	56,948
1967	18,250	2,043	23,292	11,982	274	2,344	80	g	58,265
1968	19,580	2,239	24,813	12,401	258	2,342	130	g	61,763
1969	21,020	2,459	25,962	12,509	224	2,659	146	g	64,979
1970	22,029	2,494	27,043	12,488	210	2,650	229	g	67,143
1971	22,470	2,496	28,074	11,858	187	2,862	404	g	68,351
1972	22,698	2,706	30,260	12,273	150	2,946	576	g	71,609
1973	22,512	2,652	32,188	12,970	h	3,010	910	46	74,282
1974	21,732	2,565	30,890	12,719	h	3,309	1,272	56	72,543
1975	19,948	2,484	30,247	12,677	h	3,219	1,900	72	70,545
1976	20,345	i	35,175	13,585	h	3,065	2,111	81	74,362
1977	19,931	i	37,122	13,937	h	2,515	2,702	82	76,289
1978	20,000	i	37,965	13,890	h	3,142	3,024	68	78,089
1979[R]	20,666	i	37,122	15,102	h	3,141	2,776	89	78,897
1980[R]	20,394	i	34,201	15,388	h	3,118	2,739	114	75,954
1981[R]	19,928	i	31,931	15,907	h	3,105	3,008	111	73,990
1982[R]	18,505	i	30,231	15,322	h	3,572	3,131	86	70,847
1983[R]	17,357	i	30,054	15,894	h	3,899	3,203	118	70,525
1984[R]	18,507	i	31,051	17,070	h	3,757	3,553	163	74,101
1985[R]	17,834	i	30,922	17,478	h	3,363	4,149	199	73,945
1986[R]	16,708	i	32,196	17,262	h	3,385	4,471	215	74,237
1987[R]	17,668	i	32,865	18,008	h	3,068	4,906	253	76,768
1988[P]	18,595	i	33,959	18,825	h	2,615	5,678	276	79,948

a. Represents production minus exports plus imports, and adjusted for change in inventories.
b. The Btu value per cubic foot for natural gas dry for 1966 is 1,033; 1967 1,032; 1968–1971 1,031; 1972 1,027; 973 1,021; 1974 1,024; 1975 1,021; 1976 1,020; 1977 1,021; 1978 1,019; 1979 1,021; 1980 1,026; 1981 1,027; 1982 1,028; 19[illegible] and 1985 1,031; 1984 1030; 1986–1988 1029.
c. Marketed production minus shrinkage caused by liquids extraction.
d. Includes net imports of coke of −7 trillion Btu in 1973, 56 trillion Btu in 1974, 14 trillion Btu in 1975, 15 trillion Btu in 1977, 125 trillion Btu in 1978, 63 trillion Btu in 1979, −35 trillion Btu in 1980, −16 trillion Btu in 1981, −22 trillion Btu in 1982, −16 trillion Btu in 1983, −11 trillion in 1984, −13 trillion in 1985, −17 trillion Btu in 1986, 9 trillion Btu in 1987, 40 trillion Btu in 1988.
e. See Table 3-1 for procedures used to determine Btu equivalents.
f. Includes energy from geothermal, wood or waste products.
g. Not available.
h. Included in "Bituminous Coal and Lignite."
i. Included in "Crude Petroleum and Products."
R–Revised. P–Preliminary.
Source: Prior to 1977, U.S. Bureau of Mines, 1977 and beyond, U.S. Department of Energy, Energy Information Administration, *Monthly Energy Review.*

ENERGY CONSUMPTION

TABLE 10-3

ANNUAL CONSUMPTION OF FOSSIL ENERGY RESOURCES, AND ELECTRICITY FROM HYDROPOWER AND NUCLEAR POWER, IN THE UNITED STATES, 1970–1988

(Percentage)

Year	Natural Gas Dry	Natural Gas Liquids	Crude Petroleum and Products	Bituminous Coal and Lignite	Anthracite Coal	Hydro-power	Nuclear	Other	Grand Total Energy
1970	32.8	3.7	40.3	18.6	0.3	4.0	0.3	a	100.0
1971	32.9	3.6	41.1	17.3	0.3	4.2	0.6	a	100.0
1972	31.7	3.8	42.3	17.1	0.2	4.1	0.8	a	100.0
1973	30.3	3.6	43.3	17.4	b	4.1	1.2	0.1	100.0
1974	30.0	3.4	42.6	17.5	b	4.6	1.8	0.1	100.0
1975	28.3	3.4	42.9	18.0	b	4.6	2.7	0.1	100.0
1976	27.4	c	47.3	18.3	b	4.1	2.8	0.1	100.0
1977	26.1	c	48.7	18.3	b	3.3	3.5	0.1	100.0
1978	25.6	c	48.6	17.8	b	4.0	3.9	0.1	100.0
1979	26.2	c	47.1	19.1	b	4.0	3.5	0.1	100.0
1980	26.8	c	45.0	20.3	b	4.1	3.6	0.2	100.0
1981	26.9	c	43.2	21.5	b	4.2	4.1	0.2	100.0
1982	26.1	c	42.7	21.6	b	5.0	4.4	0.2	100.0
1983	24.6	c	42.6	22.5	b	5.5	4.6	0.2	100.0
1984R	25.0	c	41.9	23.0	b	5.0	4.8	0.2	100.0
1985	24.1	c	41.8	23.6	b	4.6	5.6	0.3	100.0
1986R	22.5	c	43.4	23.2	b	4.6	6.0	0.3	100.0
1987R	23.0	c	42.8	23.7	b	4.0	6.4	0.3	100.0
1988P	23.3	c	42.5	23.6	b	3.3	7.1	0.3	100.0

a. Not available.

b. Included in "Bituminous Coal and Lignite."

c. Included in "Crude Petroleum and Products."

R– Revised. P–Preliminary.

Source: Same as Table 10-2.

TABLE 10-4

ENERGY CONSUMPTION PER CAPITA IN THE UNITED STATES, 1970–1988

Year	Total Energy Consumed (Trillions of Btu)	Natural Gas Consumed (Trillions of Btu)	Resident Population (Thousands)	Energy Consumed Per Capita (Millions of Btu)	Natural Gas Consumed Per Capita (Millions of Btu)	Gross National Product (Billions of 1982 $)	Total Energy Per Dollar of GNP (Thousands of Btu/1982 $)	Index of Industrial Production (1977 = 100)
1970	67,143	22,029	203,302	330	108	2,416.2	27.8	78.5
1971	68,351	22,470	206,827	330	109	2,484.8	27.5	79.6
1972	71,609	22,698	209,284	342	108	2,608.5	27.5	87.3
1973	74,282	22,505	211,357	351	106	2,744.1	27.1	94.4
1974	72,543	21,725	213,342	340	102	2,729.3	26.6	93.0
1975	70,545	19,948	215,465	327	93	2,695.0	26.2	84.8
1976	74,362	20,345	217,563	342	94	2,826.7	26.3	92.6
1977	76,289	19,931	219,760	347	91	2,958.6	25.8	100.0
1978	78,089	20,000	222,095	352	90	3,115.2	25.1	106.5
1979	78,897	20,666	224,567	351	92	3,192.4	24.7	110.7
1980	75,955	20,394	226,505	335	90	3,187.1	23.8	108.6
1981	73,990	19,928	229,307	323	87	3,248.8	22.8	111.0
1982R	70,847	18,505	231,507	306	80	3,166.0	22.4	103.1
1983R	70,525	17,357	233,974	301	74	3,277.0	21.5	109.2
1984R	74,101	18,507	236,636	313	78	3,492.0	21.2	121.8
1985R	73,945	17,834	238,885	310	75	3,618.7	20.4	123.8
1986R	74,237	16,708	241,596	307	69	3,701.7	20.1	125.1
1987R	76,768	17,668	243,773	315	72	3,847.0	20.0	129.8
1988P	79,958	18,595	245,807	325	76	3,996.1	20.0	137.2

R–Revised. P–Preliminary.

Source: U.S. Department of Energy, U.S. Bureau of the Census and the Federal Reserve Board.

TABLE 10-5
GAS UTILITY INDUSTRY AVERAGE ANNUAL CONSUMPTION PER CUSTOMER, BY CLASS OF SERVICE, 1966-1988[a]

(MMBtu/Customer)

Year	Total	Residential	Commercial	Industrial[b]	Other[b]
1966	336.4	118.8	510.0	38,259.3	12,755.1
1967	345.2	121.5	537.8	38,710.3	11,397.0
1968	362.4	124.1	567.6	40,378.0	13,129.2
1969	376.7	128.4	61[illegible]	42,220.0	11,327.2
1970	386.8	129.2	66[illegible]	42,386.7	12,232.3
1971	395.0	129.9	673.8	42,235.0	17,064.6
1972	397.7	130.4	697.3	41,948.8	16,428.8
1973	377.0	124.5	684.6	40,051.7	15,129.5
1974	361.1	119.6	676.1	42,066.8	12,586.1
1975	333.6	121.9	708.9	37,253.5	12,039.8
1976	329.7	121.3	718.6	40,022.3	3,511.6
1977	316.8	118.7	714.8	39,217.5	3,996.3
1978	322.2	121.0	743.6	36,635.8	4,511.8
1979	330.3	118.6	726.5	40,345.3	5,133.9
1980	326.4	111.0	701.4	42,559.4	3,454.7
1981	320.7	104.4	666.4	44,020.2	3,235.0
1982	292.9	107.1	680.6	36,514.2	3,244.5
1983	263.5	99.1	625.1	32,759.3	2,996.9
1984	266.8	102.0	642.3	33,253.2	3,094.2
1985	252.5	98.3	612.7	31,473.1	2,739.9
1986	219.4	94.0	575.3	24,434.5	3,215.2
1987[R]	204.4	92.6	541.7	21,374.4	2,885.5
1988	204.0	97.5	566.3	21,048.3	3,071.8

a. Excludes customers purchasing for resale and sales for resale. Customer data is based on yearly averages.

b. Prior to 1976, "Other" electric generation (See Table 6-13) is included in the "Other" class of service. For 1976 and beyond all electric generation is included in the Industrial category.

R - Revised

TABLE 10-6
GAS UTILITY INDUSTRY AVERAGE ANNUAL RESIDENTIAL CONSUMPTION PER CUSTOMER BY STATE, 1970-1988[a]

(MMBtu/Customer)

Division and State	1970	1975	1980	1985	1986	1987R	1988
United States	**129.2**	**121.9**	**111.0**	**98.3**	**94.0**	**92.6**	**97.5**
New England	**86.0**	**85.3**	**90.0**	**88.8**	**91.7**	**93.2**	**93.2**
Connecticut	87.6	84.6	88.1	85.8	91.7	93.2	97.3
Maine	38.2	38.7	43.2	44.3	46.1	45.8	47.6
Massachusetts	87.0	86.0	91.3	89.9	91.6	93.1	94.3
New Hampshire	93.3	95.1	97.7	94.7	99.6	95.8	95.4
Rhode Island	82.9	84.0	86.7	89.3	91.8	94.8	97.3
Vermont	65.2	93.3	102.8	105.3	107.0	103.9	105.3
Middle Atlantic	**107.3**	**102.1**	**102.8**	**94.7**	**97.7**	**97.4**	**102.7**
New Jersey	92.2	88.5	89.7	87.8	91.0	93.3	98.0
New York	91.5	89.4	90.7	87.0	89.9	89.5	94.1
Pennsylvania	146.5	135.1	133.3	112.9	116.2	114.1	121.1
East North Central	**175.7**	**164.5**	**158.6**	**137.1**	**133.4**	**125.2**	**137.0**
Illinois	164.8	168.9	162.5	147.3	145.0	132.2	145.7
Indiana	159.9	151.5	143.9	122.8	118.5	112.0	122.2
Michigan	189.1	167.7	172.8	145.8	139.9	130.9	144.4
Ohio	193.5	171.2	158.3	131.8	130.3	128.1	136.2
Wisconsin	145.0	139.0	130.8	116.5	108.6	99.1	114.1
West North Central	**167.9**	**152.6**	**131.3**	**117.4**	**109.1**	**99.2**	**113.1**
Iowa	167.8	152.2	127.7	116.4	109.6	97.5	112.3
Kansas	165.8	150.4	126.6	110.8	98.8	95.9	104.2
Minnesota	175.6	159.7	138.9	129.2	121.6	103.2	122.4
Missouri	165.5	148.9	133.2	112.7	106.8	100.7	108.1
Nebraska	167.5	155.2	128.9	118.4	106.8	96.9	107.7
North Dakota	171.4	163.0	127.6	124.5	112.2	96.5	115.4
South Dakota	153.2	145.0	117.4	115.8	106.8	92.6	105.7
South Atlantic	**111.0**	**96.3**	**93.2**	**78.0**	**80.0**	**82.2**	**84.4**
Delaware	109.0	93.6	93.4	81.1	87.6	87.8	92.6
District of Columbia	102.7	95.9	103.5	90.3	98.1	96.7	100.2
Florida	48.2	38.6	40.0	32.5	32.9	33.9	35.9
Georgia	123.9	103.5	96.9	81.7	77.7	82.5	83.0
Maryland	110.6	97.5	96.6	85.0	91.5	89.2	93.4
North Carolina	112.1	92.7	97.1	96.6	78.0	84.8	85.4
South Carolina	91.1	72.7	77.3	58.1	60.7	68.0	68.1
Virginia	111.1	100.1	99.7	84.3	89.6	92.7	95.0
West Virginia	161.0	149.4	131.0	108.9	113.9	111.2	117.1
East South Central	**126.0**	**107.1**	**102.4**	**85.0**	**82.9**	**84.9**	**88.7**
Alabama	106.9	91.2	86.9	73.6	71.3	74.8	76.5
Kentucky	157.4	136.7	130.4	104.2	103.5	102.4	110.4
Mississippi	105.5	86.6	85.9	73.5	69.2	73.2	74.4
Tennessee	126.5	105.5	101.7	85.5	83.6	85.7	89.1
West South Central	**104.6**	**95.9**	**84.3**	**74.9**	**67.9**	**72.7**	**73.4**
Arkansas	133.0	114.0	95.6	87.2	79.7	85.0	89.5
Louisiana	95.9	81.9	77.0	66.1	62.3	66.8	66.0
Oklahoma	126.8	120.6	103.5	95.3	84.6	84.6	91.6
Texas	97.6	91.5	80.2	70.4	63.4	69.5	68.4
Mountain	**140.5**	**131.0**	**103.9**	**94.0**	**83.4**	**84.1**	**87.0**
Arizona	78.4	77.3	59.1	54.6	46.6	53.1	51.9
Colorado	155.0	147.2	119.8	99.7	87.9	92.2	98.1
Idaho	114.7	110.7	79.5	81.3	76.3	69.8	71.6
Montana	175.5	171.2	126.1	123.7	106.6	99.6	108.0
Nevada	112.5	113.2	87.5	73.2	63.1	68.1	69.1
New Mexico	130.3	126.6	99.1	84.4	78.9	85.2	85.1
Utah	212.1	180.1	139.0	134.9	122.2	108.2	109.4
Wyoming	180.5	161.7	128.6	122.7	106.1	97.4	108.7
Pacific	**105.7**	**109.9**	**81.6**	**75.6**	**65.2**	**67.2**	**65.5**
Alaska	199.3	221.3	216.9	265.8	183.0	179.8	181.2
California	104.6	109.4	80.5	73.6	63.0	65.7	63.3
Hawaii	33.7	29.1	25.0	20.3	19.6	19.6	19.1
Oregon	113.2	107.0	79.8	83.5	71.7	67.6	74.2
Washington	128.3	122.0	95.5	94.0	89.1	81.9	87.7

a. Customer data is based on yearly averages.
R - Revised

TABLE 9-14
AVERAGE CONSUMER PRICE INDEXES, 1966-1988[a]

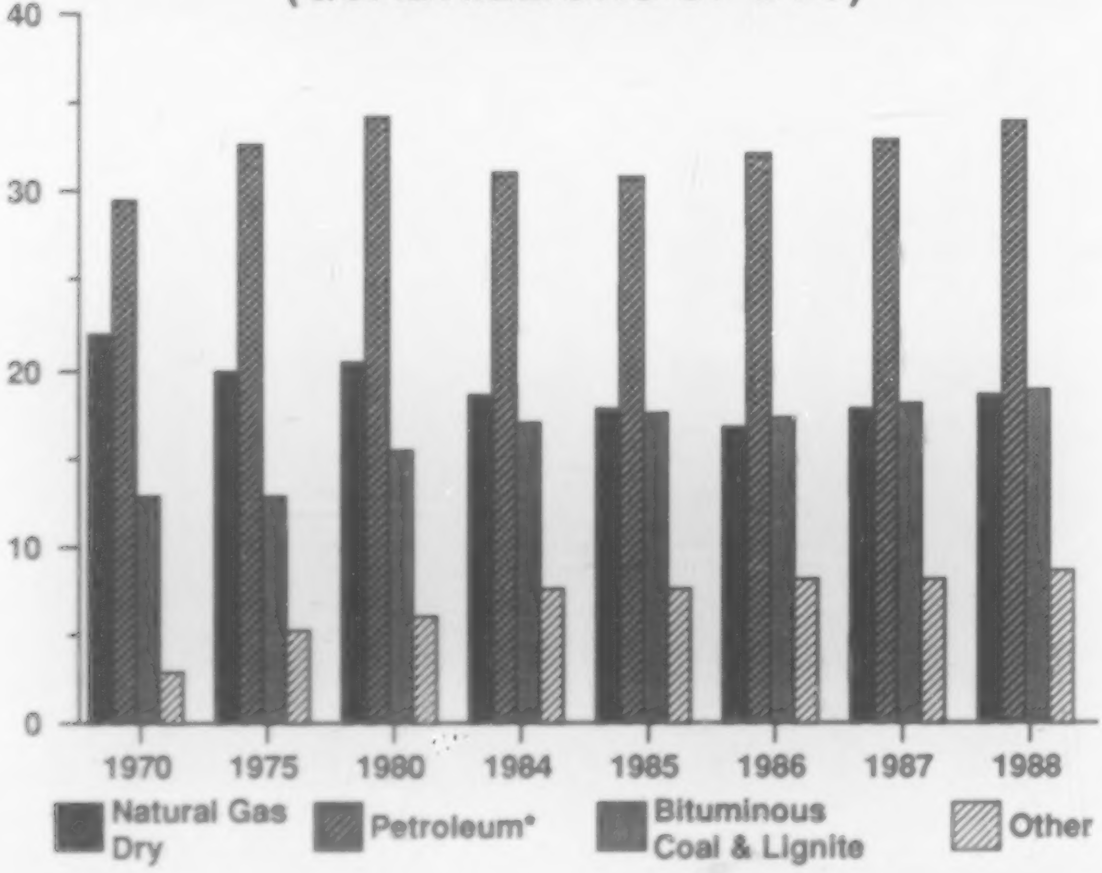
(1982–1984 = 100)

Year	All Items	Total Food	Apparel and Upkeep	Shelter[b]	Gas and Electricity	Fuel Oil and Other Utilities[c]	Year	House Furnishing[d] and Operation	Transportation	Medical Care	Personal Care	Other Goods and Services[e]
1966	32.4	35.2	49.0	27.8	23.6	26.7	1966	41.2	32.3	26.3	37.3	34.1
1967	33.4	35.1	51.0	28.8	23.7	27.1	1967	42.0	33.3	28.2	38.4	35.1
1968	34.8	36.3	53.7	30.1	23.9	27.4	1968	43.6	34.3	29.9	40.0	36.9
1969	36.7	38.0	56.8	32.6	24.3	28.0	1969	45.2	35.7	31.9	42.0	38.7
1970	38.8	39.9	59.2	35.5	25.4	29.1	1970	46.8	37.5	34.0	43.5	40.9
1971	40.5	40.9	61.1	37.0	27.1	31.1	1971	48.6	39.5	36.1	44.9	42.9
1972	41.8	42.7	62.3	38.7	28.5	32.5	1972	49.7	39.9	37.3	46.0	44.7
1973	44.4	49.7	64.6	40.5	29.9	34.3	1973	51.1	41.2	38.8	48.1	46.4
1974	49.3	57.1	69.4	44.4	34.5	40.7	1974	56.8	45.8	42.4	52.8	49.8
1975	53.8	61.8	72.5	48.8	40.1	45.4	1975	63.4	50.1	47.5	57.9	53.9
1976	56.9	63.1	75.2	51.5	44.7	49.4	1976	67.3	55.1	52.0	61.7	57.0
1977	60.6	66.8	78.6	54.9	50.5	54.7	1977	70.4	59.0	57.0	65.7	60.4
1978	65.2	73.8	81.4	60.5	55.0	58.5	1978	74.7	61.7	61.8	69.9	64.3
1979	72.6	81.8	84.9	68.9	61.0	64.8	1979	79.9	70.5	67.5	75.2	68.9
1980	82.4	88.4	90.9	81.0	71.4	75.4	1980	86.3	83.1	74.9	81.9	75.2
1981	90.9	94.8	95.3	90.5	81.9	86.4	1981	93.0	93.2	82.9	89.1	82.6
1982	96.5	98.1	97.8	96.9	93.2	94.9	1982	98.0	97.0	92.5	95.4	91.1
1983	99.6	99.1	100.2	99.1	101.5	100.2	1983	100.2	99.3	100.6	100.3	101.1
1984	103.9	102.8	102.1	104.0	105.4	104.8	1984	101.9	103.7	106.8	104.3	107.9
1985	107.6	104.3	105.0	109.8	107.1	106.5	1985	103.8	106.4	113.5	108.3	114.5
1986	109.6	107.3	105.9	115.8	105.7	104.1	1986	105.2	102.3	122.0	111.9	121.4
1987	113.6	111.9	110.6	121.3	103.8	103.0	1987	107.1	105.4	130.1	115.1	128.5
1988	118.3	116.6	115.4	127.1	104.8	104.4	1988	109.4	108.7	138.6	119.4	137.0

a. Applicable to all urban consumers in the United States.
b. Includes hotel and motel rates.
c. Starting in 1978 includes bottled gas.
d. Includes house furnishings only prior to 1969.
e. Prior to 1978 included alcoholic beverages, now found in food and beverages; now includes personal care and education—related expenses, formerly found in health and recreation.
Source: Bureau of Labor Statistics. *The Consumer Price Index*, 1988.

CHART 10-1

UNITED STATES ENERGY CONSUMPTION
(QUADRILLIONS OF BTU)



REFERENCE: TABLE 10-1

* Includes Natural Gas Liquids

GAS FACTS

TABLE 10-7

HEATING DEGREE DAYS[a] BY CALENDAR YEAR AND HEATING SEASONS, 1988-1989, AND THIRTY-YEAR NORMALS

	Calendar Year Degree Days			Heating Season Degree Days[b]		
Division and State	30-Year[c] Normals 1951-1980	1987	1988	30-Year[c] Normals 1951/52-1980/81	1987-1988	1988-1989
United States	**4,694**	**4,454**	**4,798**	**3,798**	**3,744**	**3,662**
New England	**6,562**	**6,518**	**6,687**	**5,071**	**5,005**	**4,939**
Connecticut	6,146	5,891	6,185	4,839	4,691	4,582
Maine	7,945	7,961	8,024	5,892	5,919	5,987
Massachusetts	6,322	6,420	6,530	4,913	4,892	4,808
New Hampshire	7,599	7,367	7,597	5,752	5,615	5,603
Rhode Island	5,968	5,928	6,000	4,629	4,521	4,413
Vermont	7,979	7,954	8,193	6,045	5,974	6,066
Middle Atlantic	**5,820**	**5,708**	**6,096**	**4,661**	**4,595**	**4,508**
New Jersey	5,424	5,385	5,750	4,422	4,371	4,263
New York	5,943	5,765	6,134	4,730	4,623	4,591
Pennsylvania	5,881	5,821	6,254	4,708	4,693	4,538
East North Central	**6,375**	**5,812**	**6,592**	**5,131**	**5,011**	**4,953**
Illinois	6,175	5,638	6,468	5,083	5,028	4,968
Indiana	5,871	5,407	6,120	4,815	4,670	4,588
Michigan	6,823	6,188	6,912	5,363	5,213	5,171
Ohio	5,897	5,506	6,203	4,766	4,624	4,514
Wisconsin	7,665	6,672	7,699	6,004	5,852	5,915
West North Central	**6,657**	**5,721**	**6,643**	**5,419**	**5,281**	**5,327**
Iowa	6,932	5,835	6,881	5,663	5,434	5,487
Kansas	4,988	4,546	4,998	4,271	4,258	4,053
Minnesota	8,771	7,181	8,690	6,855	6,655	6,946
Missouri	5,091	4,673	5,286	4,344	4,329	4,195
Nebraska	6,435	5,603	6,310	5,261	5,105	5,098
North Dakota	9,481	7,711	8,934	7,277	6,696	7,460
South Dakota	7,714	6,461	7,464	6,091	5,864	6,038
South Atlantic	**2,999**	**3,050**	**3,247**	**2,603**	**2,592**	**2,363**
Delaware	4,784	4,690	4,984	4,007	3,844	3,774
District of Columbia	d	d	d	d	d	d
Florida	720	698	749	713	710	479
Georgia	2,788	2,805	2,959	2,507	2,468	2,131
Maryland	4,811[e]	4,719[e]	5,074[e]	4,034[e]	3,936[e]	3,841[e]
North Carolina	3,481	3,672	3,870	3,043	3,084	2,820
South Carolina	2,743	2,916	3,086	2,495	2,571	2,246
Virginia	4,532	4,525	4,790	3,661	3,687	3,507
West Virginia	5,250	5,151	5,584	4,270	4,169	3,978
East South Central	**3,555**	**3,466**	**3,810**	**3,109**	**3,075**	**2,800**
Alabama	2,828	2,813	2,840	2,549	2,529	2,184
Kentucky	4,544	4,348	4,824	3,861	3,753	3,548
Mississippi	2,510	2,527	2,707	2,308	2,361	2,050
Tennessee	3,954	3,833	4,286	3,422	3,391	3,138
West South Central	**2,313**	**2,327**	**2,384**	**2,142**	**2,247**	**1,983**
Arkansas	3,327	3,186	3,505	2,991	3,054	2,893
Louisiana	1,794	1,831	1,880	1,703	1,742	1,441
Oklahoma	3,571	3,480	3,681	3,213	3,338	3,106
Texas	2,035	2,089	2,079	1,908	2,034	1,759
Mountain	**5,529**	**5,375**	**5,373**	**4,182**	**4,262**	**4,252**
Arizona	2,313	2,321	2,075	2,037	1,987	1,816
Colorado	7,123	7,276	7,316	5,192	5,558	5,334
Idaho	6,935	6,260	6,553	5,061	4,962	5,505
Montana	8,260	7,140	7,385	5,822	5,424	6,042
Nevada	4,263	4,134	4,002	3,373	3,416	3,427
New Mexico	4,756	4,959	4,738	3,842	3,948	3,661
Utah	6,555	6,116	6,408	4,966	5,103	5,314
Wyoming	8,023	7,532	7,657	5,744	5,805	5,884
Pacific	**3,322**	**3,024**	**2,989**	**2,432**	**2,565**	**2,499**
Alaska	f	f	f	f	f	f
California	2,703	2,502	2,366	2,060	1,924	2,100
Hawaii	f	f	f	f	f	f
Oregon	5,255	4,696	4,968	3,573	3,511	3,754
Washington	5,637	4,960	5,283	3,840	3,695	3,983

a. See glossary for definitions of (heating) degree days. Division heating degree days are the weighted average of all states in a region, according to the 1980 population. National heating degree days are the weighted average of all divisions, according to the 1980 population.

b. Heating season is defined as November through March period.

c. The transference of many weather stations between city locations and nearby airports at some time during the 30 year period has led to the introduction of slight inconsistencies in the average data.

d. Included in Maryland.

e. Includes the District of Columbia.

f. Not available.

Source: **National Oceanic and Atmospheric Administration, *Monthly State, Regional and National Heating Degree Days Weighted by Population*.**

TABLE 10-8
GAS UTILITY INDUSTRY AVERAGE ANNUAL CONSUMPTION PER CUSTOMER BY STATE AND CLASS OF SERVICE, 1988[a]

(MMBtu/Customer)

		Class of Service				
Division and State	Total	Residential	Commercial	Industrial	Electric Generation	Other
United States	**204.0**	**97.5**	**566.3**	**13,158.9**	**2,944,708.6**	**3,071.8**
New England	**182.0**	**95.2**	**600.3**	**7,440.9**	**1,703.183.3**	**747.9**
Connecticut	190.2	97.3	665.4	6,929.6	4,700.0	1,370.0
Maine	202.8	47.6	391.6	15,702.7	b	b
Massachusetts	181.7	94.3	618.0	7,878.0	2,090,888.9	736.6
New Hampshire	180.8	95.4	535.2	13,579.7	55,000.0	830.3
Rhode Island	155.3	97.3	388.9	4,445.4	1,560,500.0	16,271.4
Vermont	253.4	105.3	717.5	82,166.7	b	52.0
Middle Atlantic	**165.0**	**102.7**	**521.0**	**8,341.1**	**1,999,028.6**	**2,998.7**
New Jersey	172.4	98.0	511.1	8,946.1	3,931,600.0	10,391.3
New York	139.8	94.1	454.7	4,358.5	1,492,120.0	2,562.1
Pennsylvania	201.2	121.1	640.1	17,471.1	216,950.0	5,286.8
East North Central	**199.2**	**137.0**	**628.3**	**5,782.5**	**83,516.4**	**2,588.3**
Illinois	209.8	145.7	620.5	5,109.2	98,316.7	200.4
Indiana	198.8	122.2	570.3	10,047.0	152,500.0	2,838.5
Michigan	193.3	144.4	664.3	3,416.4	68,971.4	214,700.0
Ohio	193.4	136.2	634.7	7,559.7	49,729.4	2,741.7
Wisconsin	195.9	114.1	637.8	6,122.1	112,000.0	157,214.3
West North Central	**206.3**	**111.3**	**667.8**	**14,881.0**	**50,401.4**	**3,535.1**
Iowa	216.5	112.3	555.5	24,094.9	52,712.5	886.6
Kansas	199.8	104.2	682.2	6,472.5	42,584.1	7,867.4
Minnesota	236.2	122.4	726.1	14,958.0	39,937.9	3,763.8
Missouri	178.2	108.1	736.2	40,398.7	68,368.0	3,613.9
Nebraska	214.7	107.7	580.0	16,669.7	76,600.0	804.2
North Dakota	217.1	115.4	835.5	14,428.2	15,000.0	2,000.0
South Dakota	196.3	105.7	602.0	9,302.2	100,000.0	b
South Atlantic	**225.5**	**84.4**	**620.1**	**17,362.9**	**4,333,117.6**	**779.8**
Delaware	241.9	92.6	633.6	39,066.5	1,058,000.0	22,000.0
District of Columbia	222.9	100.2	1,307.6	b	b	b
Florida	526.3	35.9	818.9	100,016.8	7,854,838.9	7,449.6
Georgia	165.5	83.0	542.8	13,873.2	234,400.0	128.8
Maryland	156.7	93.4	569.3	4,448.6	603,533.3	7,271.4
North Carolina	251.7	85.4	493.2	20,996.7	74,000.0	10,653.0
South Carolina	268.5	68.1	484.2	42,574.3	70,000.0	759.6
Virginia	204.6	95.0	747.6	11,949.7	b	555.9
West Virginia	169.5	117.1	512.5	37,886.3	605,750.0	640.7
East South Central	**211.5**	**88.7**	**510.7**	**28,948.5**	**205,775.0**	**1,090.1**
Alabama	195.4	76.5	520.2	28,511.5	557,200.0	150.3
Kentucky	182.2	110.4	483.4	15,486.3	b	4,179.9
Mississippi	204.3	74.4	359.8	35,441.9	41,160.0	2,337.5
Tennessee	265.9	89.1	601.5	34,748.8	326,000.0	473.4
West South Central	**322.6**	**73.4**	**443.3**	**67,765.3**	**12,604,797.9**	**8,266.3**
Arkansas	216.3	89.5	420.9	18.310.5	3,047,455.6	10,190.3
Louisiana	206.7	66.0	353.6	54,916.7	3,308,670.0	24,048.2
Oklahoma	192.9	91.6	419.2	24,178.4	281.880.0	1,062.3
Texas	407.2	68.4	477.1	110,031.1	23,065,317.4	6,048.7
Mountain	**155.3**	**87.0**	**556.5**	**12,128.7**	**401,097.1**	**2,849.0**
Arizona	116.2	51.9	559.9	29,139.6	844,940.0	3,013.7
Colorado	163.2	98.1	586.7	14,147.9	295,563.6	3,452.1
Idaho	137.8	71.6	338.6	11,902.7	b	b
Montana	201.9	108.0	5[illegible]3.7	17,576.1	18,000.0	26,234.7
Nevada	147.2	69.1	[illegible]29.7	26,071.6	650,500.0	10,250.0
New Mexico	141.2	85.1	417.9	1,695.5	277,428.6	2,264.5
Utah	179.0	109.4	595.0	25,153.4	46,666.7	11,800.0
Wyoming	198.6	108.7	639.3	20,947.5	158,[illegible]00.0	1,025.0
Pacific	**179.5**	**65.5**	**523.9**	**8,939.0**	**28,386,977.8**	**18,633.3**
Alaska	508.4	181.2	955.3	406,300.0	2,381,657.1	b
California	172.4	63.3	496.8	8,390.4	49,428,900.0	27,033.8
Hawaii	96.3	19.1	852.8	603.2	b	b
Oregon	162.6	74.2	433.2	23,678.2	b	b
Washington	272.7	87.7	709.9	15,472.5	5,000.0	6,414.5

a. Excludes customers purchasing for resale and sales for resale. Customer data is based on yearly averages.

b. No sales reported.

SECTION 11
APPLIANCE AND HOUSING DATA

	1988	% Change 88/87
Manufacturer Shipments		
(Thousands of Units)		
Central Heating	2,303	+1.8
Ranges	2,140	−0.1
Water Heaters	3,957	+0.2
Clothes Dryers	1,044	+6.8
New One-Family Houses Completed		
(Thousands of Units)		
Gas Heat	587	+1.0

Note: Certain tables in this section could not be updated because current information was not available.

TABLE 11-1
MANUFACTURER SHIPMENTS OF GAS RANGES, WATER HEATERS AND CLOTHES DRYERS, 1966-1988[a]

(Thousands of Units)

Year	Domestic Range Sales			Automatic Domestic Water Heater Sales			Automatic Gas Dryers[c]
	Free-Standing[b]	Built-in	Total	Natural Gas	L.P. Gas	Total	
1966	1,931	232	2,163	2,341	296	2,637	751
1967	1,954	169	2,123	2,246	309	2,555	829
1968	2,102	184	2,286	2,411	345	2,756	876
1969	2,282	189	2,471	2,386	356	2,742	905
1970	2,195	167	2,362	2,404	381	2,785	852
1971	2,363	186	2,549	2,645	443	3,088	847
1972	2,467	194	2,661	2,676	487	3,163	936
1973	2,312	169	2,481	2,568	512	3,080	926
1974	1,825	125	1,950	2,210	359	2,569	739
1975	1,493	125	1,618	2,388	257	2,645	672
1976	1,693	131	1,824	2,695	417	3,112	707
1977	1,615	131	1,746	d	d	3,070	736
1978	1,665	129	1,794	2,578	343	2,921	757
1979	1,670	129	1,799	2,548	339	2,887	757
1980	1,437	102	1,539	2,498	320	2,818	682
1981	1,401	95	1,496	2,461	324	2,785	639
1982	1,289	79	1,368	2,771	270	3,041	584
1983	1,477	96	1,573	2,953	219	3,172	672
1984	1,626	106	1,732	3,281	221	3,502	754
1985	1,729	84	1,813	3,303	226	3,529	834
1986	1,854	86	1,940	3,485	244	3,729	936
1987	2,047	96	2,143	3,673	278	3,951	1,037
1988	2,016[e]	124[e]	2,140[e]	3,674	282	3,957	1,044[e]

a. Shows shipments by manufacturers, expanded from returns of reporting companies to represent industry-wide coverage. Shipments of appliances for L.P. gas users include those for use by customers obtaining such gas through utility mains, as well as bottled gas users.

b. Free-standing includes free-standing, "set-in" and high-oven ranges.

c. Excludes combination washer-dryer units.

d. Not Available.

e. Data not directly comparable to earlier years due to new source of information.

Source: Gas Appliance Manufacturers Association, *Statistical Highlights*, Ten Year Summary, 1979-1988 and Association of Home Appliance Manufacturers.

APPLIANCE AND HOUSING DATA

TABLE 11-2
MANUFACTURER SHIPMENTS OF GAS HEATING EQUIPMENT, 1966-1988[a]

(Thousands of Units)

Year	Central Heating Equipment				Floor and Wall Furnaces Total[b]	Direct Heating Equipment Total
	Warm Air Furnaces	Conversion Burners	Boilers	Total		
1966	1,213	93	186	1,492	515	1,034
1967	1,146	84	174	1,404	471	920
1968	1,428	79	187	1,694	555	974
1969	1,546	77	176	1,799	576	1,043
1970	1,471	66	164	1,701	545	781
1971	1,795	53	157	2,005	612	783
1972	2,066	40	156	2,262	762	708
1973	1,719	43	147	1,909	652	678
1974	1,476	89	123	1,688	409	488
1975	1,186	39	88	1,313	435	332
1976	1,554	26	113	1,693	523	306
1977	1,508	c	113	1,621	481	193
1978	1,636	c	126	1,762	532	175
1979	1,863	c	221	2,084	365	193
1980	1,446	c	293	1,739	297	222
1981	1,417	c	162	1,579	253	133
1982	1,156	c	148	1,304	260	182
1983	1,662	c	148	1,810	363	203
1984	1,849	c	180	2,029	391	256
1985	1,822	c	192	2,014	430	283
1986	2,105	c	196	2,301	427	281
1987	2,073	c	190	2,263	421	268
1988	2,092	c	211	2,303	429	294

a. Shows shipments by manufacturers; expanded from returns of reporting companies to represent industry-wide coverage.
b. Includes RV central and wall furnaces.
c. Not available.
Source: Gas Applicance Manufacturers Association, *Statistical Highlights*, Ten Year Summary, 1979-1988.

TABLE 11-3
MANUFACTURER SHIPMENTS OF RESIDENTIAL GAS APPLIANCES, BY MONTH, 1988

(Thousands of Units)

Month	Ranges		Automatic Water Heaters	Dryers[b]	Central Heating	
	Free-Standing[a]	Built-in			Warm Air Furnaces	Boilers
January	148.2	9.8	354.8	91.9	157.2	16.7
February	159.3	9.3	320.4	88.4	134.3	11.1
March	158.6	12.1	334.1	82.7	148.0	12.0
April	152.1	10.7	329.1	71.5	124.9	6.8
May	158.8	9.4	316.8	82.1	118.5	10.0
June	165.9	10.4	332.7	81.7	138.5	15.1
July	153.0	9.3	286.8	73.8	163.6	14.0
August	182.2	11.2	289.6	99.4	200.7	20.3
September	172.2	9.7	321.4	103.5	254.0	28.4
October	192.9	10.3	380.8	93.3	251.9	32.1
November	191.7	11.4	307.4	89.0	223.0	25.8
December	181.4	10.0	382.7	86.3	177.6	18.9
Total	2,016.3	123.6	3,956.5	1,043.6	2,092.2	211.3

a. Free-standing includes free-standing, "set-in" and high-oven ranges.
b. Excludes combination washer-dryer units.
Source: Gas Appliance Manufacturers Association, *Statistical Highlights*, December 1988 and Association of Home Appliance Manufacturers.

TABLE 11-4
NUMBER OF OCCUPIED HOUSING UNITS,[a] BY TYPE OF HEATING FUEL AND BY CENSUS REGION, 1975-1985

(Thousands of Occupied Units)

Year and Region	Total	Gas	Electricity	Oil[b]	Other[c]/None
1975					
United States	**72,523**	**40,933**	**9,173**	**16,299**	**6,117**
Northeast	16,508	6,446	802	8,875	386
Midwest	19,393	13,666	1,154	3,027	1,546
South	23,105	11,352	4,965	3,508	3,280
West	13,518	9,469	2,253	889	907
1976					
United States	**74,005**	**41,219**	**10,151**	**16,451**	**6,184**
Northeast	16,544	6,140	846	9,161	397
Midwest	19,722	13,803	1,366	3,004	1,549
South	23,742	11,449	5,498	3,488	3,307
West	13,998	9,826	2,441	798	933
1977					
United States	**75,280**	**41,543**	**11,146**	**16,060**	**6,531**
Northeast	16,637	6,151	958	9,103	425
Midwest	19,855	13,893	1,506	2,843	1,613
South	24,379	11,577	6,033	3,335	3,434
West	14,407	9,922	2,649	778	1,058
1978					
United States	**77,167**	**42,522**	**12,258**	**16,071**	**6,316**
Northeast	16,952	6,301	999	9,252	400
Midwest	20,171	14,140	1,685	2,817	1,529
South	25,093	11,956	6,561	3,263	3,313
West	14,951	10,125	3,013	739	1,074
1979					
United States	**78,572**	**43,323**	**13,244**	**15,708**	**6,297**
Northeast	17,122	6,558	1,109	9,056	399
Midwest	20,565	14,428	1,864	2,724	1,549
South	25,584	12,054	7,074	3,191	3,265
West	15,301	10,283	3,197	737	1,084
1980					
United States	**80,072**	**44,398**	**14,208**	**14,868**	**6,598**
Northeast	17,264	6,928	1,169	8,685	482
Midwest	20,842	14,688	2,036	2,503	1,615
South	26,286	12,290	7,615	3,009	3,372
West	15,680	10,492	3,388	671	1,129
1981					
United States	**83,175**	**46,084**	**15,486**	**14,494**	**7,111**
Northeast	17,851	7,335	1,281	8,642	593
Midwest	21,565	15,308	2,211	2,328	1,718
South	27,431	12,725	8,225	2,905	3,576
West	16,328	10,716	3,770	619	1,223
1982					
United States	**84,638**	**46,700**	**15,684**	**13,031**	**9,223**
Northeast	18,221	7,741	1,319	8,226	934
Midwest	21,618	15,656	2,172	1,774	2,015
South	27,931	12,346	8,557	2,559	4,470
West	16,868	10,956	3,635	472	1,805
1985					
United States	**88,425**	**45,328**	**18,361**	**12,441**	**12,295**
Northeast	18,729	7,339	1,642	7,998	1,750
Midwest	22,142	15,253	2,430	1,698	2,761
South	30,064	11,839	10,664	2,153	5,408
West	17,490	10,896	3,626	592	2,376

a. Units include both single-family and multifamily.
b. Oil includes kerosene.
c. Other includes LP gas, coal, wood and solar heat.

Source: U.S. Bureau of the Census, Current Housing Reports—Series H-150. *Annual Housing Survey.* Part A: General Housing Characteristics.

APPLIANCE AND HOUSING DATA

TABLE 11-5
NEW ONE FAMILY HOUSES[a] COMPLETED, BY TYPE OF HEATING FUEL AND BY CENSUS REGION, 1980-1988

(Thousands of Units)

Year and Region	Total	Gas	Electricity	Oil[b]	Other/None
1980					
United States	**957**	**393**	**483**	**29**	**52**
Northeast	100	35	36	18	11
Midwest	170	101	47	6	16
South	455	136	303	5	11
West	232	121	97	c	14
1981					
United States	**819**	**339**	**407**	**16**	**57**
Northeast	87	30	34	11	12
Midwest	140	87	37	c	13
South	408	128	262	c	16
West	183	94	74	c	15
1982					
United States	**632**	**252**	**315**	**17**	**48**
Northeast	79	28	27	14	10
Midwest	92	53	24	3	13
South	340	112	214	c	13
West	121	59	50	c	12
1983					
United States	**924**	**400**	**448**	**22**	**53**
Northeast	106	40	38	18	9
Midwest	142	92	35	c	13
South	476	163	296	c	15
West	200	105	79	c	16
1984					
United States	**1,025**	**460**	**492**	**24**	**49**
Northeast	129	53	46	21	9
Midwest	156	110	30	c	14
South	508	170	325	c	12
West	233	127	91	c	14
1985					
United States	**1,072**	**466**	**528**	**36**	**42**
Northeast	168	65	63	32	8
Midwest	151	111	31	c	7
South	514	146	354	c	11
West	239	144	79	c	16
1986					
United States	**1,118**	**526**	**496**	**51**	**45**
Northeast	193	80	59	47	7
Midwest	170	132	30	c	6
South	502	152	334	c	14
West	253	162	74	c	17
1987					
United States	**1,119**	**581**	**444**	**57**	**37**
Northeast	195	86	52	52	5
Midwest	201	166	26	3	6
South	464	154	302	c	8
West	258	175	64	c	19
1988					
United States	**1,085**	**587**	**402**	**60**	**36**
Northeast	188	85	43	57	3
Midwest	191	162	22	c	6
South	457	164	282	3	8
West	248	176	53	c	18

a. Includes only privately-owned housing units.
b. Does not include kerosene.
c. Withheld because estimate did not meet Bureau of the Census publication standards.
Source: U.S. Bureau of the Census, Construction Reports—Series C25, *Characteristics of New Housing*, 1988.

TABLE 11-6
UNITS[a] IN NEW MULTIFAMILY BUILDINGS COMPLETED, BY TYPE OF HEATING FUEL AND BY CENSUS REGION, 1980-1988

(Thousands of Units)

Year and Region	Total	Gas	Electricity	Oil[b]	Other/None
1980					
United States	**545**	**165**	**362**	**12**	**6**
Northeast	46	16	20	10	c
Midwest	104	46	57	c	1
South	242	36	204	2	c
West	153	67	81	c	5
1981					
United States	**447**	**142**	**293**	**7**	**4**
Northeast	40	23	11	5	c
Midwest	78	42	36	c	c
South	218	33	184	1	c
West	111	44	63	c	4
1982					
United States	**374**	**103**	**255**	**9**	**7**
Northeast	41	15	17	8	1
Midwest	51	32	17	c	2
South	199	21	176	c	1
West	82	34	45	c	3
1983					
United States	**467**	**133**	**327**	**3**	**4**
Northeast	33	21	9	c	d
Midwest	59	37	22	c	1
South	270	31	238	c	1
West	104	44	58	c	3
1984					
United States	**627**	**165**	**452**	**5**	**5**
Northeast	40	16	18	c	1
Midwest	65	34	32	c	d
South	358	46	312	c	d
West	164	70	90	c	4
1985					
United States	**631**	**197**	**425**	**3**	**5**
Northeast	46	25	17	3	1
Midwest	79	36	42	c	1
South	298	34	263	c	1
West	207	101	103	c	3
1986					
United States	**636**	**221**	**400**	**8**	**7**
Northeast	61	33	19	7	2
Midwest	100	43	56	c	1
South	259	33	224	1	1
West	216	112	101	c	3
1987					
United States	**545**	**222**	**306**	**5**	**12**
Northeast	60	35	18	5	2
Midwest	102	63	37	d	2
South	194	30	162	d	2
West	190	95	89	d	6
1988					
United States	**445**	**196**	**238**	**4**	**7**
Northeast	62	40	18	3	1
Midwest	89	56	32	d	1
South	138	20	118	d	d
West	156	80	70	d	5

a. Includes only privately-owned housing units.
b. Does not include kerosene.
c. Withheld because estimate did not meet Bureau of the Census publication standards.
d. Fewer than 500 units.
Source: U.S. Bureau of the Census, Construction Reports—Series C25, *Characteristics of New Housing*, 1988.

TABLE 11-7
NUMBER OF OCCUPIED HOUSING UNITS,[a] BY TYPE OF COOKING FUEL AND BY CENSUS REGION, 1974-1985

(Thousands of Occupied Units)

Year and Region	Total	Gas	Electricity	Oil[b]	Other[c]/None
1974					
United States	**70,831**	**31,908**	**32,720**	**82**	**6,120**
Northeast	16,281	9,211	5,747	46	1,277
Midwest	18,993	8,908	8,423	14	1,648
South	22,489	7,985	11,797	19	2,688
West	13,067	5,803	6,754	4	506
1975					
United States	**72,523**	**32,493**	**33,944**	**76**	**6,011**
Northeast	16,508	9,244	5,973	27	1,264
Midwest	19,393	9,051	8,699	16	1,627
South	23,105	8,229	12,224	31	2,621
West	13,518	5,968	7,048	3	499
1976					
United States	**74,003**	**32,299**	**35,669**	**44**	**5,991**
Northeast	16,545	9,086	6,178	14	1,267
Midwest	19,722	8,978	9,165	7	1,572
South	23,741	8,179	12,897	22	2,643
West	13,996	6,057	7,429	1	509
1977					
United States	**75,280**	**32,207**	**37,042**	**45**	**5,986**
Northeast	16,635	9,096	6,280	17	1,242
Midwest	19,857	8,857	9,426	14	1,560
South	24,379	8,146	13,563	11	2,659
West	14,408	6,107	7,773	2	526
1978					
United States	**77,167**	**32,576**	**38,779**	**107**	**5,705**
Northeast	16,952	9,185	6,568	44	1,155
Midwest	20,171	8,847	9,833	32	1,459
South	25,094	8,242	14,234	24	2,594
West	14,950	6,302	8,144	7	497
1979					
United States	**78,572**	**32,551**	**40,345**	**84**	**5,593**
Northeast	17,123	9,162	6,752	42	1,166
Midwest	20,565	8,958	10,180	15	1,413
South	25,585	8,171	14,873	22	2,519
West	15,299	6,258	8,540	6	496
1980					
United States	**80,072**	**32,664**	**41,729**	**152**	**5,528**
Northeast	17,264	9,234	6,828	65	1,138
Midwest	20,842	8,898	10,516	30	1,398
South	26,286	8,196	15,531	37	2,521
West	15,680	6,336	8,852	20	471
1985					
United States	**88,425**	**33,794**	**49,057**	**153**	**5,421**
Northeast	18,729	9,526	7,874	20	1,309
Midwest	22,142	9,135	11,826	24	1,157
South	30,064	8,298	19,201	55	2,510
West	17,490	6,834	10,156	54	446

a. Units include both single-family and multifamily.
b. Oil includes kerosene.
c. Other includes LP gas, coal and wood.

Sources: For 1974-1977, U.S. Bureau of the Census, Current Housing Reports—Series H-150, *Annual Housing Survey.* Part A. For 1978-1980, U.S. Bureau of the Census, Current Housing Reports—Series H-150, *Annual Housing Survey.* Part F: Energy-Related Housing Characteristics.

TABLE 11-8
NUMBER OF OCCUPIED HOUSEHOLDS BY TYPE OF FUEL USED FOR WATER HEATING AND CLOTHES DRYING, AND BY CENSUS REGION, 1985[R]

(Millions of Households)

Region	Total	Gas	Electricity	Oil[a]	Other[b]/None
Water Heating					
United States	**88.4**	**49.6**	**30.8**	**6.4**	**1.1**
Northeast	18.7	8.8	3.9	5.7	0.3
Midwest	22.1	16.0	5.8	0.1	0.2
South	30.1	12.9	16.1	0.5	0.2
West	17.5	12.0	5.0	0.1	0.4
Clothes Drying					
United States	**88.4**	**12.8**	**42.2**	**c**	**33.4**
Northeast	18.7	2.8	7.4	c	8.5
Midwest	22.1	5.0	10.0	c	7.1
South	30.1	2.1	16.7	c	11.3
West	17.5	2.9	8.1	c	6.5

NUMBER OF OCCUPIED HOUSEHOLDS BY TYPE OF FUEL USED FOR WATER HEATING AND CLOTHES DRYING, AND BY CENSUS REGION, 1987

(Millions of Households)

Region	Total	Gas	Electricity	Oil[a]	Other[b]/None
Water Heating					
United States	**90.5**	**49.3**	**32.0**	**5.3**	**3.9**
Northeast	19.0	9.0	4.5	5.1	0.3
Midwest	22.3	15.3	5.8	d	1.1
South	30.9	12.6	16.7	d	1.4
West	18.3	12.4	5.0	d	0.9
Clothes Drying					
United States	**90.5**	**12.9**	**45.9**	**c**	**31.7**
Northeast	19.0	3.1	8.1	c	7.8
Midwest	22.3	4.3	11.4	c	6.6
South	30.9	2.1	17.9	c	10.9
West	18.3	3.4	8.6	c	6.3

a. Oil includes kerosene.
b. Other includes LP gas, coal, wood and solar.
c. Not applicable.
d. Data withheld because of large variance.
R—Revised.
Source: U.S. Department of Energy, Energy Information Administration, *Residential Energy Consumption Survey: Housing Characteristics.*

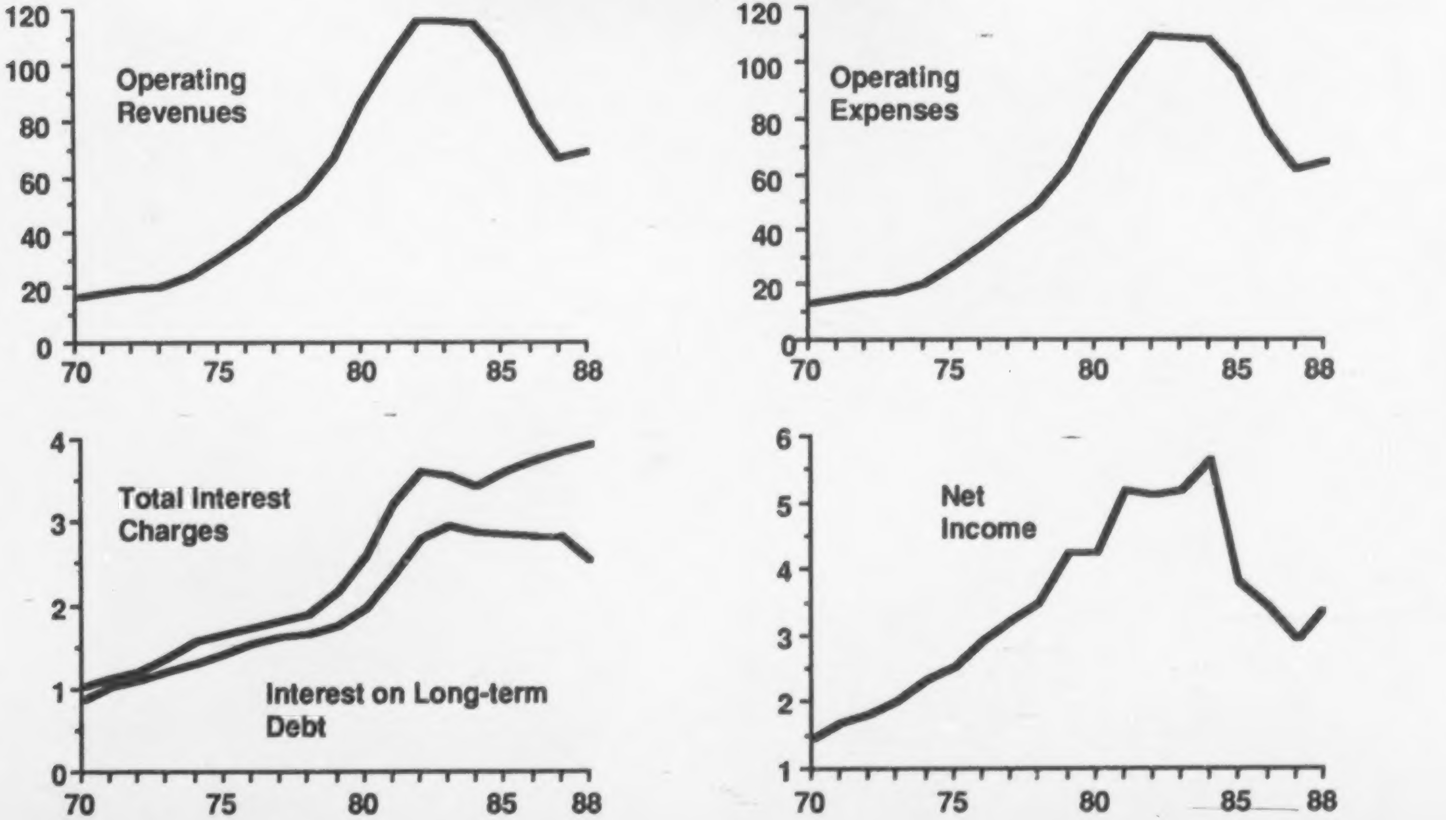
SECTION 12
INCOME ACCOUNTS

	1988	% Change 88/87
Total Operating Revenues (Millions)		
Total Industry	$69,755	+ 0.3
Distribution	16,666	+ 0.9
Transmission	26,482	− 2.9
Integrated	11,254	+ 2.7
Combination	15,353	+ 3.6
Net Income (Millions)		
Total Industry	$ 3,352	+12.8
Distribution	950	+33.2
Transmission	1,491	+46.9
Integrated	424	−30.9
Combination	487	−22.6

CHART 12-1

GAS UTILITY INDUSTRY COMPOSITE INCOME ACCOUNTS (INVESTOR-OWNED)

BILLIONS OF DOLLARS



REFERENCE: TABLE 12-1

TABLE 12-1
COMPOSITE INCOME ACCOUNTS
INVESTOR-OWNED GAS UTILITY INDUSTRY
TOTAL INDUSTRY[a], 1970–1988

(Millions)

	1970	1975	1980	1985	1986	1987[R]	1988
Total Operating Revenues	$16,380	$30,550	$85,918	$103,945	$80,978	$69,566	$69,755
Operation Expenses	11,205	22,254	73,288	86,944	64,347	54,409	55,284
Maintenance Expenses	431	703	1,220	1,628	1,685	1,645	1,749
Total Operation and Maintenance Expenses	11,636	22,957	74,508	88,572	66,032	56,054	57,033
Depreciation, Retirements, Depletion, etc.	1,101	1,760	2,434	3,158	3,305	3,176	3,423
Federal Income Taxes[b]	605	965	1,369	2,282	1,760	1,454	1,120
Provision for Deferred Federal Income Taxes		465	1,949	2,206	2,613	2,795	2,767
Portion of Current Federal Income Taxes Provided For in Prior Years	34	(252)	(1,406)	(1,676)	(1,614)	(2,196)	(2,789)
Investment Tax Credit Adjustment	b	130	213	238	4	(13)	(43)
Other Federal Taxes	55	109	202	355	369	360	388
State Income Taxes	46	116	200	314	315	238	243
Other State and Local Taxes	829	1,230	2,320	2,871	2,686	2,541	2,555
Total Taxes	1,569	2,763	4,847	6,590	6,133	5,179	4,241
Total Operating Expenses	14,306	27,480	81,789	98,320	75,470	64,409	64,697
Operating Income	2,074	3,070	4,129	5,625	5,508	5,157	5,058
Other Operating Income	12	21	23	140	231	159	4
Allowance for Funds Used During Construction	73	130	319	265	204	136	140
Utility Operating Income	2,159	3,221	4,471	6,030	5,943	5,452	5,202
Other Income (Non-Operating) (Net)[c]	298	916[d]	2,458[d]	1,606[d]	1,142[d]	1,393[d]	2,270[d]
Income Before Interest Charges	2,457	4,137[d]	6,929[d]	7,636[d]	7,085[d]	6,845[d]	7,472[d]
Interest on Long-Term Debt	867	1,423	1,961	2,847	2,829	2,799	2,579
Amortization of Debt Disc. Exp. and Premium	9	12	15	25	70	85	69
Other Interest Expense (Net)	154	203	622	724	832	926	1,381
Total Interest Charges	1,030	1,638	2,598	3,596	3,731	3,810	4,029
Net Income Before Extraordinary Items	e	2,499[d]	4,331[d]	4,039[d]	3,354[d]	3,035[d]	3,443[d]
Extraordinary Items, Less Taxes	c	3	(137)	(255)	36	(64)	(91)
Net Income	1,427	2,502[d]	4,194[d]	3,785[d]	3,390[d]	2,971[d]	3,352[d]
Preferred Dividends	129	184	296	430	370	302	229
Common Dividends	877	1,325	2,268	3,630	3,512	3,151	2,922
Note:							
Number of Companies Reporting[f]	291	204	201	184	177	187	175
Op. Rev. of Companies Reporting (Millions)	$15,776	$29,057	$79,896	$94,935	$72,816	$64,626	$64,731

a. For combination companies, only gas operations are included.
b. "Investment Tax Credit Adjustment" included in "Federal Income Taxes" prior to 1971.
c. "Extraordinary Items" included in "Other Income (Non-Operating) (Net)" prior to 1971.
d. Not comparable with prior years due to a 1973 Federal Power Commission ruling requiring adoption of the equity method in reporting earnings of subsidiaries.
e. Not available.
f. Financial data of report companies expanded to represent total industry on the basis of operating revenues.
R–Revised.
( ): Denotes negative.
Note: Data not directly comparable from year to year due to acquisitions and mergers. See page ix.

TABLE 12-2
COMPOSITE INCOME ACCOUNTS
INVESTOR-OWNED GAS UTILITY INDUSTRY
DISTRIBUTION COMPANIES, 1982–1988

(Millions)

	1982	1983	1984	1985	1986	1987	1988
Total Operating Revenues	$14,653	$16,743	$17,366	$21,510	$18,352	$16,513	$16,666
Operation Expenses	12,523	14,064	14,370	17,387	14,384	12,687	12,671
Maintenance Expenses	217	271	294	420	425	430	440
Total Operation and Maintenance Expenses	12,740	14,335	14,664	17,807	14,809	13,117	13,111
Depreciation, Retirements, Depletion, etc.	314	372	397	571	625	629	687
Federal Income Taxes	123	176	388	345	429	433	381
Provision for Deferred Federal Income Taxes	144	214	139	250	214	205	222
Portion of Current Federal Income Taxes Provided For in Prior Years	(69)	(70)	(120)	(68)	(97)	(166)	(199)
Investment Tax Credit Adjustment	36	35	40	71	4	(11)	(21)
Other Federal Taxes	52	62	70	97	97	101	109
State Income Taxes	33	44	47	65	63	54	60
Other State and Local Taxes	624	774	837	1,122	1,028	937	920
Total Taxes	943	1,235	1,401	1,882	1,738	1,553	1,472
Total Operating Expenses	13,997	15,942	16,462	20,260	17,172	15,299	15,270
Operating Income	656	801	904	1,250	1,180	1,214	1,396
Other Operating Income	2	2	3	4	2	2	4
Allowance for Funds Used During Construction	16	12	11	9	9	15	22
Utility Operating Income	674	815	918	1,263	1,191	1,231	1,422
Other Income (Non-Operating) (Net)	76	91	94	121	(64)	29	129
Income Before Interest Charges	750	906	1,012	1,384	1,127	1,260	1,551
Interest on Long-Term Debt	297	323	327	456	448	460	469
Amortization of Debt Disc. Exp. and Premium	2	3	4	5	7	8	9
Other Intererst Expense (Net)	80	60	54	93	88	88	136
Total Interest Charges	379	386	385	554	543	556	614
Net Income Before Extraordinary Items	371	520	627	829	584	704	937
Extraordinary Items, Less Taxes	2	a	a	2	105	9	13
Net Income	373	521	627	831	689	713	950
Preferred Dividends	22	31	31	44	39	30	31
Common Dividends	257	329	400	640	677	570	622
Note:							
Number of Companies Reporting	52	53	53	65	60	61	63
Op. Rev. of Companies Reporting (Millions)	$13,407	$15,395	$15,659	$19,424	$16,508	$15,254	$15,353

a. Less than $500,000.
( ): Denotes negative.
Note: Data not directly comparable from year to year due to acquisitions and mergers. See page ix.

TABLE 12-3
COMPOSITE INCOME ACCOUNTS INVESTOR-OWNED GAS UTILITY INDUSTRY TRANSMISSION COMPANIES, 1970–1988

(Millions)

	1970	1975	1980	1985	1986	1987	1988
Total Operating Revenues	$5,928	$11,898	$41,604	$45,738	$33,887	$27,275	$26,482
Operation Expenses	4,094	8,463	36,075	39,635	27,385	21,972	22,226
Maintenance Expenses	109	187	405	523	593	546	603
Total Operation and Maintenance Expenses	4,203	8,650	36,480	40,158	27,978	22,518	22,829
Depreciation, Retirements, Depletion, etc.	509	896	1,238	1,449	1,677	1,461	1,537
Federal Income Taxes[a]	200	646	846	1,103	869	200	148
Provision for Deferred Federal Income Taxes		246	1,421	1,399	1,596	2,056	2,017
Portion of Current Federal Income Taxes Provided For in Prior Years	(9)	(221)	(1,069)	(1,189)	(1,158)	(1,457)	(2,171)
Investment Tax Credit Adjustment	a	48	77	49	(9)	1	(5)
Other Federal Taxes	11	22	52	92	101	89	102
State Income Taxes	12	52	92	101	126	66	72
Other State and Local Taxes	162	221	572	425	407	425	429
Total Taxes	376	1,014	1,991	1,980	1,932	1,380	592
Total Operating Expenses	5,088	10,560	39,709	43,587	31,587	25,359	24,958
Operating Income	840	1,338	1,895	2,151	2,300	1,916	1,524
Other Operating Income	b	b	3	125	223	151	b
Allowance for Funds Used During Construction	24	38	126	44	36	33	48
Utility Operating Income	864	1,376	2,024	2,320	2,559	2,100	1,572
Other Income (Non-Operating) (Net)[c]	190	640[d]	1,755[d]	1,238[d]	892[d]	1,100[d]	2,207[d]
Income Before Interest Charges	1,054	2,016[d]	3,779[d]	3,558[d]	3,451[d]	3,200[d]	3,779[d]
Interest on Long-Term Debt	414	643	979	1,346	1,483	1,493	1,252
Amortization of Debt Disc. Exp. and Premium	7	7	8	9	54	59	46
Other Interest Expense (Net)	70	110	325	317	534	623	959
Total Intererst Charges	491	760	1,312	1,672	2,071	2,175	2,257
Net Income Before Extraordinary Items	e	1,256[d]	2,467[d]	1,886[d]	1,380[d]	1,025[d]	1,522[d]
Extraordinary Items, Less Taxes	c	0	(141)	(129)	(53)	(10)	(31)
Net Income	563	1,256[d]	2,326[d]	1,757[d]	1,327[d]	1,015[d]	1,491[d]
Preferred Dividends	79	79	142	164	182	152	88
Common Dividends	351	600	1,229	1,984	1,917	1,633	1,353
Note:							
Number of Companies Reporting	39	33	39	38	38	45	37
Op. Rev. of Companies Reporting (Millions)	$5,729	$11,192	$37,971	$41,705	$30,644	$24,457	$23,579

a. "Investment Tax Credit Adjustment" included in "Federal Income Taxes" prior to 1971.
b. Less than $500,000.
c. "Extraordinary Items" included in "Other Income (Non-Operating) (Net)" prior to 1971.
d. Not comparable with prior years due to 1973 Federal Power Commission ruling requiring adoption of the equity method in reporting earings of subsidiaries.
e. Not available.
( ): Denotes negative.
Note: Data not directly comparable from year to year due to acquisitions and mergers. See page ix.

INCOME ACCOUNTS

TABLE 12-4
COMPOSITE INCOME ACCOUNTS INVESTOR-OWNED GAS UTILITY INDUSTRY INTEGRATED COMPANIES, 1982-1988

(Millions)

	1982	1983	1984	1985	1986	1987^{R}	1988
Total Operating Revenues	$27,481	$27,125	$25,599	$17,396	$12,348	$10,954	$11,254
Operation Expenses	23,399	22,806	21,043	14,281	9,765	8,465	8,637
Maintenance Expenses	455	422	432	306	273	262	277
Total Operation and Maintenance Expenses	23,854	23,228	21,475	14,587	10,038	8,727	8,914
Depreciation, Retirements, Depletion, etc.	671	704	682	571	373	441	479
Federal Income Taxes	160	506	714	441	171	440	294
Provision for Deferred Federal Income Taxes	538	382	156	238	343	186	146
Portion of Current Federal Income Taxes Provided For in Prior Years	(276)	(258)	(171)	(204)	(70)	(287)	(115)
Investment Tax Credit Adjustment	125	84	78	57	(5)	(3)	(9)
Other Federal Taxes	103	100	105	79	74	71	76
State Income Taxes	49	95	106	69	54	42	49
Other State and Local Taxes	930	867	905	511	465	429	452
Total Taxes	1,629	1,776	1,893	1,191	1,032	878	893
Total Operating Expenses	26,154	25,708	24,050	16,349	11,443	10,046	10,286
Operating Income	1,327	1,417	1,549	1,047	905	908	968
Other Operating Income	21	18	13	11	6	6	a
Allowance for Funds Used During Construction	21	10	9	7	6	9	9
Utility Operating Income	1,369	1,445	1,571	1,065	917	923	977
Other Income (Non-Operating) (Net)	606	457	419	162	206	208	15
Income Before Interest Charges	1,975	1,902	1,990	1,227	1,123	1,131	992
Interest on Long-Term Debt	606	635	634	501	355	356	349
Amortization of Debt Disc. Exp. and Premium	4	4	5	6	3	10	5
Other Interest Expense (Net)	231	140	119	274	166	172	228
Total Interest Charges	841	779	758	781	524	538	582
Net Income Before Extraordinary Items	1,134	1,123	1,232	446	599	593	410
Extraordinary Items, Less Taxes	a	a	(30)	25	14	21	14
Net Income	1,134	1,123	1,202	471	613	614	424
Preferred Dividends	58	78	127	99	38	34	36
Common Dividends	712	774	846	575	458	461	461
Note:							
Number of Companies Reporting	46	43	42	26	25	28	23
Op. Rev. of Companies Reporting (Millions)	$25,015	$24,309	$22,394	$14,743	$9,404	$10,243	$10,540

a. Less than $500,000.
R–Revised.
( ): Denotes negative.
Note: Data not directly comparable from year to year due to acquisitions and mergers. See page ix.

TABLE 12-5
COMPOSITE INCOME ACCOUNTS INVESTOR-OWNED GAS UTILITY INDUSTRY COMBINATION COMPANIES, 1982–1988

(Millions)

	1982	1983	1984	1985	1986	1987[R]	1988
Gas Operations							
Total Operating Revenues	$17,692	$18,651	$19,207	$19,301	$16,391	$14,824	$15,353
Operation Expenses	14,778	15,567	15,692	15,641	12,813	11,285	11,750
Maintenance Expenses	339	346	354	379	394	407	429
Total Operation and Maintenance Expenses	15,117	15,913	16,046	16,020	13,207	11,692	12,179
Depreciation, Retirements, Depletion, etc.	443	480	522	567	630	645	720
Federal Income Taxes	145	116	513	393	291	381	297
Provision for Deferred Federal Income Taxes	254	416	250	319	460	348	382
Portion of Current Federal Income Taxes Provided For in Prior Years	(97)	(220)	(309)	(215)	(289)	(286)	(304)
Investment Tax Credit Adjustment	72	76	95	61	14	b	(8)
Other Federal Taxes	69	74	82	87	97	99	101
State Income Taxes	55	63	82	79	72	76	62
Other State and Local Taxes	729	790	786	813	786	750	754
Total Taxes	1,227	1,315	1,499	1,537	1,431	1,368	1,284
Total Operating Expenses	16,787	17,708	18,067	18,124	15,268	13,705	14,183
Operating Income[a]	905	943	1,140	1,177	1,123	1,119	1,170
Total Operations							
Total Operating Revenues	$56,541	$60,883	$62,035	$63,647	$58,917	$56,839	$60,730
Operation Expenses	35,305	36,987	36,616	36,773	31,748	29,841	31,965
Maintenance Expenses	2,939	3,195	3,852	3,589	3,438	3,680	4,089
Total Operation and Maintenance Expenses	38,244	40,092	39,916	40,362	35,186	33,521	36,054
Depreciation, Retirements, Depletion, etc.	3,299	3,606	3,852	4,210	4,334	4,658	5,399
Federal Income Taxes	1,544	1,324	1,864	1,972	2,475	2,466	2,161
Provision for Deferred Federal Income Taxes	1,557	2,431	2,502	2,477	3,180	3,010	2,993
Portion of Current Federal Income Taxes Provided For in Prior Years	(1,080)	(981)	(1,129)	(884)	(1,136)	(1,623)	(2,330)
Investment Tax Credit Adjustment	900	847	925	790	40	21	(101)
Other Federal Taxes	331	360	380	401	410	450	483
State Income Taxes	365	432	538	466	489	430	457
Other State and Local Taxes	3,581	3,998	4,014	4,213	4,231	4,254	4,567
Total Taxes	7,198	8,411	9,095	9,435	9,689	9,008	8,230
Total Operating Expenses	48,741	52,109	52,863	54,007	49,208	47,187	49,683
Operating Income	7,800	8,774	9,172	9,640	9,708	9,652	11,047
Other Operating Income	2	1	1	1	31	13	b
Allowance for Funds Used During Construction	2,247	2,975	2,568	2,578	1,937	1,122	880
Utility Operating Income	10,049	11,750	11,741	12,219	11,676	10,787	11,927
Other Income (Non-Operating) (Net)	625	478	745	968	1,158	423	(443)
Income Before Interest Charges	10,674	12,228	12,486	13,187	12,834	11,210	11,484
Interest on Long-Term Debt	4,052	4,615	4,718	5,155	4,971	4,728	4,948
Amortization of Debt Disc. Exp. and Premium	28	35	21	53	62	79	92
Other Interest Expense (Net)	567	410	383	302	322	372	415
Total Interest Charges	4,647	5,060	5,122	5,510	5,355	5,179	5,455
Net Income Before Extraordinary Items	6,027	7,168	7,364	7,677	7,479	6,031	6,029
Extraordinary Items, Less Taxes	41	9	15	749	(206)	(1,079)	(1,365)
Net Income	6,068	7,177	7,379	6,928	7,273	4,952	4,664
Preferred Dividends	986	1,073	1,022	1,006	914	778	791
Common Dividends	3,526	4,188	4,045	4,388	4,425	4,609	4,639
Note:							
Number of Companies Reporting	59	57	54	55	54	53	52
Total Op. Revenues of Companies Reporting (Millions)	$55,901	$60,231	$60,980	$62,862	$58,444	$56,258	$60,358
Gas Revenues of Companies Reporting (Millions)	$17,492	$18,479	$18,880	$19,063	$16,260	$14,672	$15,259

a. Includes "Other Operating Income" which was less than $500,000 in each year.
b. Less than $500,000.
R–Revised.
( ): Denotes negative.
Note: Data not directly comparable from year to year due to acquisitions and mergers. See page ix.

INCOME ACCOUNTS

TABLE 12-6
INVESTOR-OWNED GAS UTILITY INDUSTRY GAS OPERATION AND MAINTENANCE EXPENSES BY TYPE OF COMPANY, 1987-1988

(Millions)

Total Industry Type of Expense	1987^{R}		1988	
	Operation	Maintenance	Operation	Maintenance
Purchased Gas Cost and Production Exp.	$41,568	$ 0	$41,206	$ 0
Other Production and Purch. Exp. and Adjustments	1,648	125	2,303	128
Production and Purchases, Total	43,216	125	43,509	128
Storage	563	87	615	101
Transmission	2,729	462	2,796	513
Distribution	1,488	892	1,581	923
Customer Accounts	1,546	0	1,604	a
Sales	184	a	203	0
Administrative and General	4,334	79	4,624	84
Customer Service	349	0	352	0
Total	54,409	1,645	55,284	1,749

Distribution Companies Type of Expense	Operation	Maintenance	Operation	Maintenance
Purchased Gas Cost and Production Exp.	$10,010	$ 0	$ 9,874	$ 0
Other Production and Purch. Exp. and Adjustments	105	11	93	11
Production and Purchases, Total	10,115	11	9,967	11
Storage	40	15	41	15
Transmission	17	4	22	5
Distribution	607	372	652	378
Customer Accounts	653	0	673	0
Sales	95	a	113	0
Administrative and General	1,061	28	1,108	31
Customer Service	99	0	95	0
Total	12,687	430	12,671	440

Transmission Companies Type of Expense	Operation	Maintenance	Operation	Maintenance
Purchased Gas Cost and Production Exp.	$16,164	$ 0	$15,422	$ 0
Other Production and Purch. Exp. and Adjustments	1,316	85	2,028	87
Production and Purchases, Total	17,480	85	17,450	87
Storage	385	40	433	49
Transmission	2,417	408	2,467	454
Distribution	27	2	31	2
Customer Accounts	19	0	12	0
Sales	28	0	23	0
Administrative and General	1,607	11	1,804	11
Customer Service	9	0	6	0
Total	21,972	546	22,226	603

Integrated Companies Type of Expense	Operation	Maintenance	Operation	Maintenance
Purchased Gas Cost and Production Exp.	$ 6,527	$ 0	$ 6,639	$ 0
Other Production and Purch. Exp. and Adjustments	87	13	77	13
Production and Purchases, Total	6,614	13	6,716	13
Storage	68	19	66	19
Transmission	168	25	150	27
Distribution	337	190	351	202
Customer Accounts	395	0	426	a
Sales	36	0	31	0
Administrative and General	755	15	796	16
Customer Service	92	0	101	0
Total	8,465	262	8,637	277

Combination Companies Type of Expense	Operation	Maintenance	Operation	Maintenance
Purchased Gas Cost and Production Exp.	$ 8,867	$ 0	$ 9,271	$ 0
Other Production and Purch. Exp. and Adjustments	140	16	105	17
Production and Purchases, Total	9,007	16	9,376	17
Storage	70	13	75	18
Transmission	127	25	157	27
Distribution	517	328	547	341
Customer Accounts	479	0	493	0
Sales	25	0	36	0
Administrative and General	911	25	916	26
Customer Service	149	0	150	0
Total	11,285	407	11,750	429

a. Less than $500,000.
R–Revised.
Note: See note previous page.

SECTION 13
BALANCE SHEETS

	1988	% Change 88/87
Gas Utility Plant (Millions)		
Total Industry	$99,935	+ 6.8
Distribution	20,990	+ 8.6
Transmission	45,800	+ 7.0
Integrated	14,380	+ 4.1
Combination	18,765	+ 6.6
Total Common Equity (Millions)		
Total Industry	$37,724	+ 5.2
Distribution	6,823	+15.7
Transmission	20,933	+ 7.0
Integrated	4,476	−11.1
Combination	5,492	+ 2.7

BALANCE SHEETS

TABLE 13-1
COMPOSITE BALANCE SHEET ACCOUNTS
INVESTOR-OWNED GAS UTILITY INDUSTRY
TOTAL INDUSTRY, 1970–1988

(Millions)

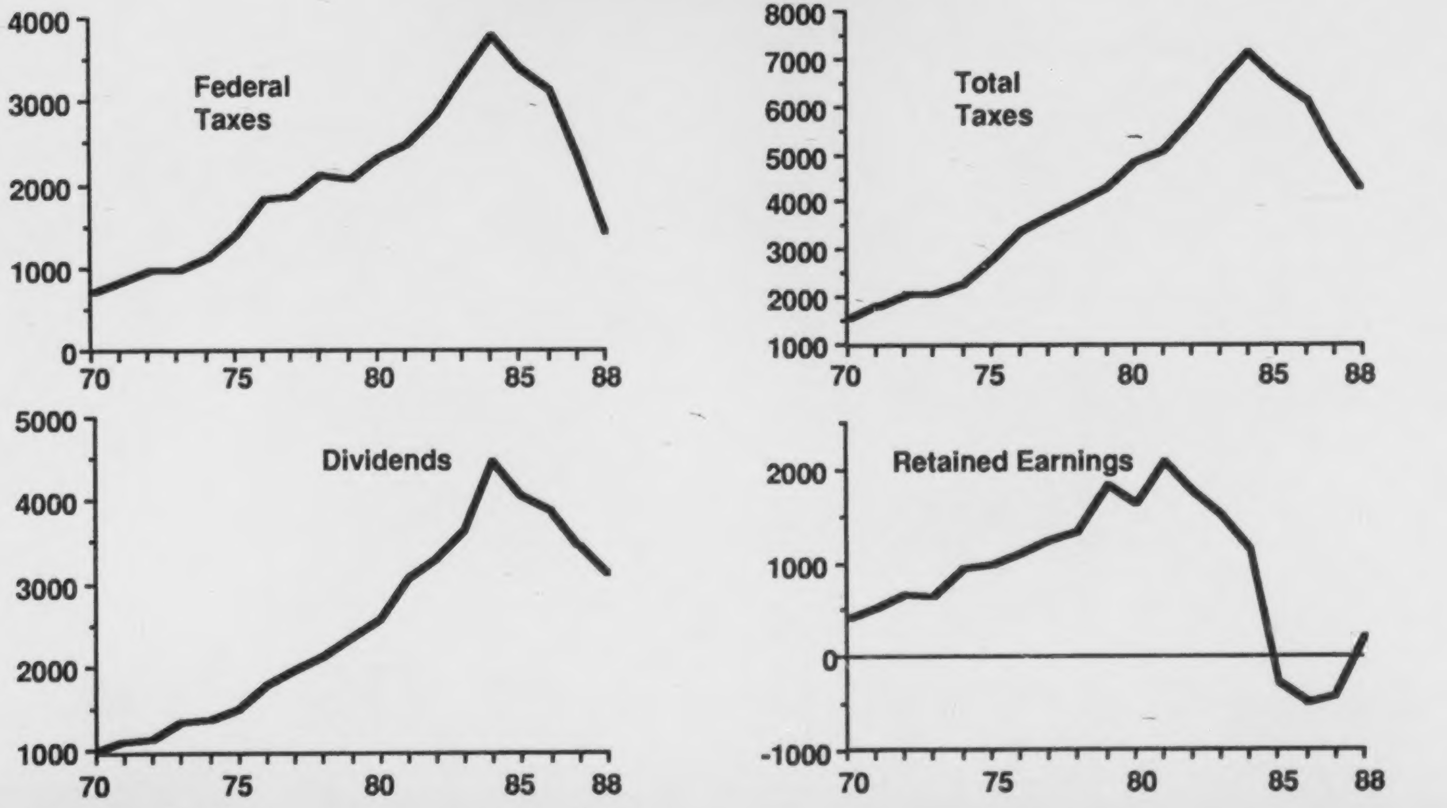
	1970	1975	1980	1985	1986	1987[R]	1988
ASSETS							
Total Gas Utility Plant	$38,541	$49,384	$67,071	$86,547	$89,887	$93,540	$99,935
Less Accum. Prov. for Depr. and Amort.	10,696	16,779	26,162	36,377	36,776	41,162	44,424
Net Gas Utility Plant (Total)	27,845	32,605	40,909	50,170	53,111	52,378	55,511
Gas Stored Underground (Non-Current)[a]	0	0	0	1,574	1,719	1,694	1,545
Investment and Fund Accounts	3,024	9,198[b]	15,530[b]	23,871[b]	21,850[b]	25,660[b]	31,552[b]
Current and Accrued Assets	3,674	7,543	17,243	24,771	21,477	21,025	23,402
Deferred Debits[c]	386	940	2,169	4,092	5,851	8,633	9,658
Total Assets	34,929	50,286[b]	75,851[b]	104,478[b]	104,008[b]	109,390[b]	121,668[b]
LIABILITIES							
Common Stock	4,727	5,803	6,968	7,739	7,928	7,466	7,732
Retained Earnings	4,230	7,911[b]	13,122[b]	18,893[b]	16,414[b]	15,993[b]	17,253[b]
Other Paid-in Capital[d]	2,063	3,245	5,597	9,450	12,507	12,387	12,739
Total Common Equity	11,020	16,959[b]	25,687[b]	36,082[b]	36,849[b]	35,846[b]	37,724[b]
Preferred Stock	1,945	2,541	3,628	3,435	3,053	2,366	2,174
Total Capital Stock	12,965	19,500[b]	29,315[b]	39,517[b]	39,902[b]	38,212[b]	39,898[b]
Bonds	9,248	10,493	9,574	9,378	9,859	10,778	10,815
Debentures	4,274	5,174	5,819	7,739	7,016	7,881	9,273
Other Long-Term Debt	2,159	3,877	6,674	9,165	9,883	9,441	9,889
Total Long-Term Debt	15,681	19,544	22,067	26,282	26,758	28,100	29,977
Total Capitalization	28,646	39,044[b]	51,382[b]	65,799[b]	66,660[b]	66,312[b]	69,875[b]
Current and Accrued Liabilities	4,832	8,158	18,119	26,125	23,855	26,664	33,735
Deferred Credits	370	752	1,683	3,779	3,985	4,693	4,896
Non-Current Liabilities[e]	48	194	428	879	1,007	1,694	2,372
Contributions in Aid of Construction	245	86	90	127	138	126	104
Accumulated Deferred Income Taxes[f]	788	2,052	4,149	7,769	8,363	9,901	10,686
Total Liabilities	34,929	50,286[b]	75,851[b]	104,478[b]	104,008[b]	109,390[b]	121,668[b]

a. First year this category is broken out is 1985.
b. Not comparable with 1970 and prior years due to a 1973 Federal Power Commission ruling requiring adoption of the equity method in reporting earnings of subsidiaries.
c. Includes "Capital Stock Discount and Expense" and "Reacquired Securities."
d. Includes accounts formerly detailed in "Premiums, Assessments, etc." and "Capital Surplus."
e. Formerly called "Operating Reserves."
f. Includes "Reserves for Deferred Income Taxes."
R–Revised.
Note: Data not directly comparable from year to year due to acquisitions and mergers. See page ix.

CHART 12-2

GAS UTILITY INDUSTRY DISPOSITION OF NET INCOME AND TAXES (INVESTOR-OWNED)

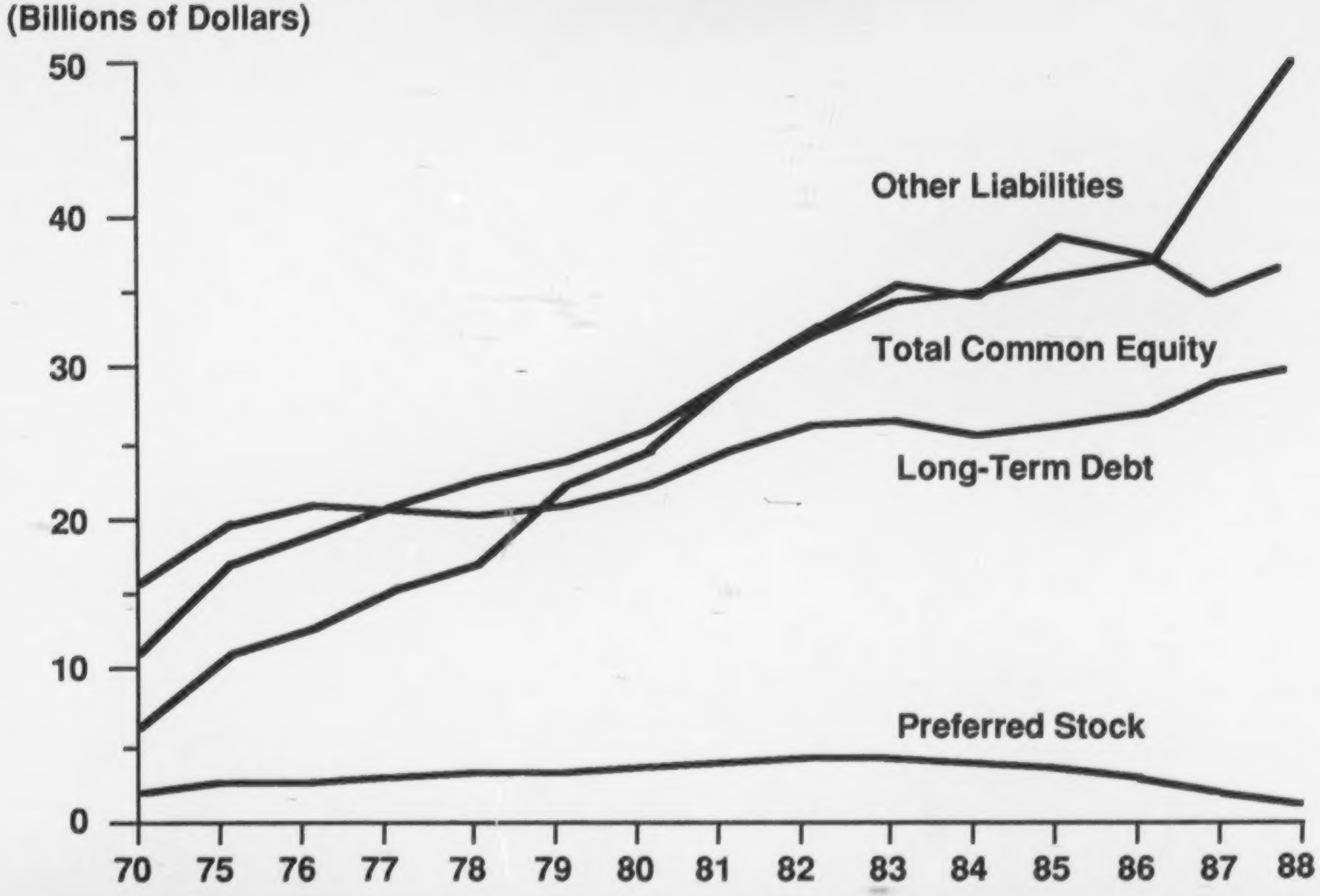
MILLIONS OF DOLLARS



REFERENCE: TABLE 12-1

CHART 13-1

GAS UTILITY INDUSTRY INVESTMENT
(INVESTOR-OWNED)



REFERENCE: TABLE 13-1

TABLE 13-2
COMPOSITE BALANCE SHEET ACCOUNTS INVESTOR-OWNED GAS UTILITY INDUSTRY DISTRIBUTION COMPANIES, 1982–1988

(Millions)

	1982	1983	1984	1985	1986	1987R	1988
ASSETS							
Total Gas Utility Plant	$9,755	$11,042	$11,980	$17,383	$17,911	$19,320	$20,990
Less Accum. Prov. for Depr. and Amort.	3,067	3,558	3,971	5,631	5,833	6,277	6,729
Net Gas Utility Plant (Total)	6,688	7,484	8,009	11,752	12,078	13,043	14,261
Gas Stored Underground (Non-Current)[a]	0	0	0	124	145	127	101
Investment and Fund Accounts	523	564	659	1,136	758	909	1,141
Current and Accrued Assets	3,043	3,890	3,317	4,864	4,054	3,845	4,342
Deferred Debits	192	214	180	334	386	479	809
Total Assets	10,446	12,152	12,165	18,210	17,421	18,403	20,654
LIABILITIES							
Common Stock	925	974	805	1,205	1,189	1,340	1,439
Retained Earnings	1,425	1,669	1,921	2,917	2,467	2,461	3,343
Other Paid-in Capital	623	860	1,076	1,502	1,762	2,094	2,041
Total Common Equity	2,973	3,503	3,802	5,624	5,418	5,895	6,823
Preferred Stock	268	338	336	441	382	391	389
Total Capital Stock	3,241	3,841	4,138	6,065	5,800	6,286	7,212
Bonds	1,666	1,928	1,950	2,756	2,963	2,950	3,494
Debentures	123	309	345	537	700	914	1,104
Other Long-Term Debt	979	795	839	1,171	1,189	1,198	1,313
Total Long-Term Debt	2,768	3,032	3,134	4,464	4,852	5,062	5,911
Total Capitalization	6,009	6,873	7,272	10,529	10,652	11,348	13,123
Current and Accrued Liabilities	3,201	3,767	3,294	5,054	4,186	4,314	4,660
Deferred Credits	470	570	642	969	923	973	960
Non-Current Liabilities[b]	18	22	28	54	43	54	169
Contributions in Aid of Construction	60	62	67	116	123	117	94
Accumulated Deferred Income Taxes[c]	688	858	862	1,488	1,494	1,597	1,648
Total Liabilities	10,446	12,152	12,165	18,210	17,421	18,403	20,654

a. First year this category is broken out is 1985.
b. Formerly called "Operating Reserves."
c. Includes "Reserves for Deferred Income Taxes."
R – Revised.
Note: Data not directly comparable from year to year due to acquisitions and mergers. See page ix.

BALANCE SHEETS

TABLE 13-3
COMPOSITE BALANCE SHEET ACCOUNTS INVESTOR-OWNED GAS UTILITY INDUSTRY TRANSMISSION COMPANIES, 1970-1988

(Millions)

	1970	1975	1980	1985	1986	1987[R]	1988
ASSETS							
Total Gas Utility Plant	$16,363	$20,351	$30,334	$39,076	$42,668	$42,810	$45,800
Less Accum. Prov. for Depr. and Amort.	5,311	8,636	14,361	21,126	22,289	25,132	26,874
Net Gas Utility Plant (Total)	11,052	11,714	15,973	17,950	20,379	17,678	18,926
Gas Stored Underground (Non-Current)[a]	0	0	0	868	1,055	958	837
Investment and Fund Accounts	1,889	6,791[b]	11,998[b]	14,914[b]	18,023[b]	21,295[b]	27,579[b]
Current and Accrued Assets	1,384	3,459	8,432	14,494	12,526	12,288	13,493
Deferred Debits[c]	192	516	1,371	2,311	3,979	6,305	6,672
Total Assets	14,517	22,480[b]	37,774[b]	50,537[b]	55,962[b]	58,524[b]	67,507[b]
LIABILITIES							
Common Stock	1,477	1,984	2,610	2,694	3,194	2,066	2,172
Retained Earnings	1,430	4,010[b]	7,984[b]	11,102[b]	9,799[b]	9,339[b]	10,340
Other Paid-in Capital[d]	1,233	1,891	3,414	5,008	8,185	8,159	8,421
Total Common Equity	4,140	7,885[b]	14,008[b]	18,804[b]	21,178[b]	19,564[b]	20,933[b]
Preferred Stock	1,019	1,012	1,734	1,361	1,150	494	299
Total Capital Stock	5,159	8,897[b]	15,742[b]	20,165[b]	22,328[b]	20,058[b]	21,232[b]
Bonds	3,458	3,125	2,398	900	1,234	1,917	1,325
Debentures	2,569	3,124	3,732	5,529	4,805	5,515	6,482
Other Long-Term Debt	841	2,167	4,114	5,117	5,945	5,529	5,548
Total Long-Term Debt	6,868	8,415	10,244	11,546	11,984	12,961	13,355
Total Capitalization	12,027	17,312[b]	25,986[b]	31,711[b]	34,312[b]	33,019[b]	34,587[b]
Current and Accrued Liabilities	1,974	3,802	9,067	13,028	14,505	16,603	23,137
Deferred Credits	147	295	495	998	1,611	2,053	1,838
Non-Current Liabilities[e]	14	113	174	580	810	1,424	1,963
Contributions in Aid of Construction	14	0	0	5	7	1	4
Accumulated Deferred Income Taxes[f]	341	959	2,052	4,215	4,717	5,424	5,978
Total Liabilities	14,517	22,480[b]	37,774[b]	50,537[b]	55,962[b]	58,524[b]	67,507[b]

a. First year this category is broken out is 1985.
b. Not comparable with 1970 and prior years due to a 1973 Federal Power Commission ruling requiring adoption of the equity method in reporting earnings of subsidiaries.
c. Includes "Capital Stock Discount and Expense."
d. Includes accounts formerly detailed in "Premiums, Assessments, etc." and "Capital Surplus."
e. Formerly called "Operating Reserves."
f. Includes "Reserves for Deferred Income Taxes."
R – Revised.
Note: Data not directly comparable from year to year due to acquisitions and mergers. See page ix.

TABLE 13-4
COMPOSITE BALANCE SHEET ACCOUNTS
INVESTOR-OWNED GAS UTILITY INDUSTRY
INTEGRATED COMPANIES, 1982-1988

(Millions)

	1982	1983	1984	1985	1986	1987[R]	1988
ASSETS							
Total Gas Utility Plant	$19,190	$19,284	$19,033	$14,203	$12,236	$13,808	$14,380
Less Accum. Prov. for Depr. and Amort.	6,631	6,902	6,875	5,743	4,305	5,079	5,493
Net Gas Utility Plant (Total)	12,559	12,382	12,158	8,460	7,931	8,729	8,887
Gas Stored Underground (Non-Current)[a]	0	0	0	442	371	415	410
Investment and Fund Accounts	4,833	5,192	6,057	7,354	2,520	2,887	2,028
Current and Accrued Assets	5,975	6,371	5,315	3,726	3,180	3,293	3,873
Deferred Debits	773	628	447	538	390	583	833
Total Assets	24,140	24,573	23,977	20,520	14,392	15,907	16,031
LIABILITIES							
Common Stock	2,232	2,351	2,174	1,808	1,497	1,932	1,874
Retained Earnings	4,107	4,056	4,252	3,058	2,110	2,307	1,765
Other Paid-in Capital	1,255	1,780	1,903	1,766	1,223	798	837
Total Common Equity	7,594	8,187	8,329	6,632	4,830	5,037	4,476
Preferred Stock	722	690	770	439	398	451	448
Total Capital Stock	8,316	8,877	9,099	7,071	5,228	5,488	4,924
Bonds	2,331	2,386	2,307	1,352	1,179	1,344	1,337
Debentures	2,448	2,526	2,546	1,537	1,299	1,265	1,438
Other Long-Term Debt	1,810	1,611	1,538	1,940	1,715	1,605	1,657
Total Long-Term Debt	6,589	6,523	6,391	4,829	4,193	4,214	4,432
Total Capitalization	14,905	15,400	15,490	11,900	9,421	9,702	9,356
Current and Accrued Liabilities	6,625	6,516	5,731	6,401	3,424	4,056	4,206
Deferred Credits	785	726	938	982	596	691	895
Non-Current Liabilities[b]	283	83	83	133	22	59	97
Contributions in Aid of Construction	43	51	48	c	c	c	c
Accumulated Deferred Income Taxes[d]	1,499	1,797	1,687	1,104	929	1,399	1,477
Total Liabilities	24,140	24,573	23,977	20,520	14,392	15,907	16,031

a. First year this category is broken out is 1985.
b. Formerly called "Operating Reserves."
c. Less than $500,000.
d. Includes "Reserves for Deferred Income Taxes."
R–Revised.
Note: Data not direcfly comparable from year to year due to acquisitions and mergers. See page ix.

BALANCE SHEETS

TABLE 13-5
COMPOSITE BALANCE SHEET ACCOUNTS INVESTOR-OWNED GAS UTILITY INDUSTRY COMBINATION COMPANIES, 1982-1988

(Millions)

	1982	1983	1984	1985	1986	1987[R]	1988
ASSETS							
Electric	$114,620	$130,259	$127,337	$107,117	$110,397	$123,697	$138,238
Gas	13,760	14,385	14,837	15,552	16,723	17,240	18,358
Other	4,366	4,759	5,102	5,338	6,162	7,995	6,218
Total Utility Plant	132,746	149,403	147,276	128,007	133,282	148,932	162,814
Construction Work in Progress[a]	0	0	0	32,611	26,248	17,411	12,802
Less Accum. Prov. for Depr. and Amort.	30,496	33,971	35,225	38,896	40,329	43,738	49,401
Net Utility Plant	102,250	115,432	112,051	121,720	119,201	122,605	126,215
Gas Stored Underground (Non-Current)[b]	0	0	0	140	148	194	197
Investment and Fund Accounts	3,224	3,894	4,098	4,686	5,093	5,322	7,456
Current and Accrued Assets	13,556	14,615	15,923	16,921	15,919	14,967	15,711
Deferred Debits	3,284	4,474	9,335	9,124	10,161	11,851	12,463
Total Assets	122,314	138,415	141,407	152,591	150,522	154,939	162,042
LIABILITIES							
Common Stock	15,974	17,899	18,364	20,382	18,995	19,913	20,833
Retained Earnings	13,382	15,493	16,754	18,218	18,895	17,651	16,736
Other Paid-in Capital	10,047	11,777	10,887	11,780	12,396	12,508	13,357
Total Common Equity	39,403	45,169	46,005	50,380	50,286	50,072	50,926
Preferred Stock	11,903	13,234	12,258	11,980	10,413	9,637	9,620
Total Capital Stock	51,306	58,403	58,263	62,360	60,699	59,709	60,546
Bonds	38,912	42,284	41,905	43,834	41,573	42,739	43,196
Debentures	805	785	1,103	1,361	1,962	1,753	2,312
Other Long-Term Debt	5,947	8,010	8,317	9,394	9,587	10,375	12,712
Total Long-Term Debt	45,664	51,079	51,325	54,589	53,122	54,867	58,220
Total Capitalization	96,970	109,482	109,588	116,949	113,821	114,576	118,766
Current and Accrued Liabilities	14,172	14,929	15,285	16,477	16,139	15,826	16,063
Deferred Credits	5,427	6,237	7,091	8,326	7,925	9,135	11,152
Non-Current Liabilities[c]	108	113	1,644	1,123	1,222	1,471	1,330
Contribution in Aid of Construction	52	57	61	64	76	72	53
Accumulated Deferred Income Taxes[d]	5,585	7,597	7,738	9,652	11,339	13,859	14,678
Total Liabilities	122,314	138,415	141,407	152,591	150,522	154,939	162,042

a. First year this category is broken out is 1985. Formerly included under the corresponding plant category.
b. First year this category is broken out is 1985.
c. Formerly called "Operating Reserves."
d. Includes "Reserves for Deferred Income Taxes."
R - Revised
Note: Data not directly comparable from year to year due to acquisitions and mergers. See page ix.

TABLE 13-6
TOTAL GAS UTILITY INDUSTRY PLANT BY TYPE OF COMPANY AND BY PLANT FUNCTION, 1970–1988

(Millions)

	1970	1975	1980	1985	1986	1987[R]	1988
Total Industry							
Total Gas Utility Plant	**$39,914**	**$51,004**	**$69,275**	**$88,717**	**$92,159**	**$95,952**	**$103,956**
Production	3,657	4,776	8,199	10,511	8,534	8,827	8,771
Underground Storage	1,816	2,697	4,529	4,305	4,545	4,500	4,740
Other Storage	a	700	672	717	733	659	486
LNG	b	b	284	262	269	285	475
Transmission	17,188	20,530	25,418	33,969	35,431	36,448	39,092
Distribution	15,056	19,151	24,923	33,397	36,115	38,628	42,838
General and Intangible[c]	1,518	2,226	3,470	4,438	5,312	5,076	5,726
Construction Work in Progress	679	924	1,780	1,118	1,220	1,529	1,828
Total Investor-Owned Industry							
Total Gas Utility Plant	**$38,541**	**$49,384**	**$67,071**	**$86,547**	**$89,887**	**$93,540**	**$99,935**
Production	3,529	4,687	8,019	10,347	8,277	8,573	8,442
Underground Storage	1,770	2,639	4,451	4,286	4,524	4,478	4,686
Other Storage	a	648	632	617	634	558	452
LNG	b	b	273	241	248	264	417
Transmission	17,170	20,307	25,298	33,930	35,392	36,402	38,990
Distribution	13,989	18,080	23,343	31,906	34,538	36,967	39,822
General and Intangible[c]	1,451	2,125	3,334	4,155	5,112	4,857	5,399
Construction Work in Progress	632	896	1,721	1,065	1,162	1,441	1,727
Distribution Companies							
Total Gas Utility Plant	b	**$ 8,547**	**$10,990**	**$17,383**	**$17,911**	**$19,320**	**$20,990**
Production	b	387	539	656	509	629	625
Underground Storage	b	460	627	572	566	556	571
Other Storage	b	172	140	200	198	183	149
LNG	b	c	91	151	156	162	253
Transmission	b	425	338	581	518	536	631
Distribution	b	6,452	8,569	13,720	14,377	15,454	16,672
General and Intangible[c]	b	479	599	1,308	1,389	1,526	1,743
Construction Work in Progress	b	173	87	195	198	274	346
Transmission Companies							
Total Gas Utility Plant	**$16,363**	**$20,351**	**$30,334**	**$39,076**	**$42,668**	**$42,810**	**$45,800**
Production	1,842	2,650	5,098	7,204	6,465	6,301	6,305
Underground Storage	668	1,299	2,340	2,325	2,606	2,571	2,904
Other Storage	a	113	175	143	203	156	123
LNG	b	b	160	41	42	37	40
Transmission	13,238	15,322	20,194	27,400	30,564	31,464	33,727
Distribution	2	5	7	6	0	5	5
General and Intangible[c]	330	587	1,204	1,583	2,340	1,704	2,007
Construction Work in Progress	283	375	1,156	374	448	572	689
Integrated Companies							
Total Gas Utility Plant	b	**$10,960**	**$13,756**	**$14,203**	**$12,236**	**$13,808**	**$14,380**
Production	b	1,240	1,914	1,937	752	1,097	978
Underground Storage	b	531	961	916	842	881	728
Other Storage	b	62	103	85	51	43	0
LNG	b	b	14	5	6	5	41
Transmission	b	3,418	3,308	4,026	2,304	2,736	2,873
Distribution	b	4,809	6,191	6,338	7,382	7,877	8,543
General and Intangible[c]	b	748	1,029	733	733	936	931
Construction Work in Progress	b	151	236	163	166	233	286
Combination Companies							
Total Gas Utility Plant	b	**$ 9,526**	**$11,991**	**$15,885**	**$17,072**	**$17,602**	**$18,765**
Production	b	410	468	550	551	546	534
Underground Storage	b	348	523	473	510	470	483
Other Storage	b	301	214	189	182	176	180
LNG	b	b	8	44	44	60	83
Transmission	b	1,144	1,458	1,923	2,006	1,666	1,759
Distribution	b	6,816	8,576	11,842	12,779	13,631	14,602
General and Intangible[c]	b	310	502	531	650	691	718
Construction Work in Progress	b	197	242	333	330	362	406

a. Included in "Production."
b. Not available.
c. Includes plant acquisition adjustments and plant adjustments.
R–Revised
Note: Data not directly comparable from year to year due to acquisitions and mergers. See page ix.

SECTION 14
ANALYTICAL RATIOS

	1988	% Change 88/87
Capitalization Represented by (%)		
Long-term Debt	42.9	+ 1.3
Preferred Stock	3.1	−12.9
Common Equity	54.0	− 0.1

The analytical ratios in this section have been calculated on a consistent basis for all years. These ratios are considered to be an acceptable set of indicators which provide trends on the condition of the investor-owned gas utility industry. Please contact the statistics department at A.G.A. for details of the formulas used to calculate these analytical ratios.

ANALYTICAL RATIOS

TABLE 14-1
SELECTED COMPOSITE ANALYTICAL RATIOS
INVESTOR-OWNED GAS UTILITY INDUSTRY
TOTAL INDUSTRY, 1970-1988

	1970	1975	1980	1985	1986	1987[R]	1988
Earnings							
Utility Operating Income as % of Total Plant	5.6	6.5	6.7	7.0	6.6	5.8	5.2
Utility Operating Income as % of Net Plant	7.8	9.9	10.9	12.0	11.2	10.4	9.4
Operating Revenue as % of Total Plant	42.5	61.9	128.1	120.1	90.1	74.4	69.8
Common Dividend Payout Ratio	67.6	57.2[a]	58.2[a]	108.2[a]	116.3[a]	118.1[a]	93.6[a]
Return on Common Equity	11.8	13.7[a]	15.2[a]	9.3[a]	8.2[a]	7.4[a]	8.3[a]
Return on Average Common Equity	12.2	14.3	15.8	9.5	8.3	7.3	8.5
Return on Net Plant	4.7	7.1	9.5	6.7	5.7	5.1	5.6
Pretax Coverage of:							
Total Interest Expense[b]	3.0	3.3	3.5	3.0	2.6	2.3	2.1
Long-Term Debt Interest Expense[b]	3.6	3.8	4.6	3.8	3.5	3.2	3.3
Allowance for Funds Used During Construction as % of Net Income	5.1	5.2	7.6	7.0	6.0	4.6	4.2
Expenses							
Operating Expenses as % of Operating Revenue	87.3	90.0	95.2	94.6	93.2	92.6	92.7
Maintenance Expenses as % of Total Plant	1.1	1.4	1.8	1.9	1.9	1.8	1.8
Depreciation Expenses as % of Total Plant	2.9	3.6	3.6	3.7	3.7	3.4	3.4
Depreciation Expenses as % of Depreciable Plant	c	3.6	4.1	3.7	3.8	3.5	3.5
Total Taxes as % of Total Plant	4.1	5.6	7.2	7.6	6.8	5.5	4.2
Total Taxes as % of Net Plant	5.6	8.5	11.8	13.1	11.5	9.9	7.6
Total Taxes as % of Net Income plus Total Taxes	52.5	53.9[a]	53.6[a]	63.5[a]	64.4[a]	63.5[a]	55.9[a]
Current Federal Income Tax as % of Net Income plus current Federal Income Tax[d]	29.8	30.4[a]	27.4[a]	40.0[a]	34.3[a]	32.7[a]	24.3[a]
Plant							
Total Plant as % of Total Operating Revenue	235.3	161.6	78.1	83.3	111.0	134.5	143.3
Net Plant as % of Total Operating Revenue	170.0	106.7	47.6	48.3	65.6	75.3	79.6
Depreciation Reserve as % of Total Plant	27.8	34.0	39.0	42.0	40.9	44.0	44.5
Depreciation Reserve as % of Depreciable Plant	c	35.8	44.0	43.1	42.4	45.1	45.4
Total Plant per Employee ($000)	182.1	251.6	328.1	423.2	444.9	477.2	521.0
Capitalization							
Long-term Debt as % of Net Plant	56.3	59.4	53.9	52.4	50.4	53.6	54.0
% Total Capitalization Represented by:							
a. Long-term Debt	54.7	50.1	42.9	40.0	40.1	42.4	42.9
b. Preferred Stock	6.8	6.5	7.1	5.2	4.6	3.6	3.1
c. Common Equity	38.5	43.4	50.0	54.8	55.3	54.0	54.0
% Current Year Financing of Construction Expenditures Represented by:							
a. Internal Sources	c	53.8	55.3	71.8	63.5	62.4	64.8
b. Equity Issues	c	11.9	11.2	7.9	4.7	5.8	6.2
c. Debt Issues	c	34.3	33.5	20.3	31.8	31.8	29.0

a. Not comparable with 1970 and prior years due to a 1973 Federal Power Commission ruling requiring adoption of the equity method in reporting earnings of subsidiaries.
b. Reflects pre-federal income tax coverage.
c. Not available.
d. Includes "Investment Tax Credit Adjustment."
R–Revised.

TABLE 14-2
SELECTED COMPOSITE ANALYTICAL RATIOS
INVESTOR-OWNED GAS UTILITY INDUSTRY
DISTRIBUTION COMPANIES, 1982-1988

	1982	1983	1984	1985	1986	1987[R]	1988
Earnings							
Utility Operating Income as % of Total Plant	6.9	7.4	7.7	7.3	6.6	6.4	6.8
Utility Operating Income as % of Net Plant	10.0	10.9	11.5	10.7	9.9	9.4	10.0
Operating Revenue as % of Total Plant	150.2	151.6	145.0	123.7	102.5	85.5	79.4
Common Dividend Payout Ratio	73.2	67.1	67.1	81.3	104.2	83.5	67.7
Return on Common Equity	11.8	14.0	15.7	14.0	12.0	11.6	13.5
Return on Average Common Equity	12.3	15.1	16.3	a	a	12.1	a
Return on Net Plant	5.2	6.6	7.4	6.7	5.4	5.2	6.4
Pretax Interest Coverage of:							
Total Interest Expense[b]	2.6	3.3	3.8	3.6	3.1	3.1	3.1
Long-Term Debt Interest Expense[b]	3.3	3.9	4.5	4.3	3.7	3.7	4.1
Allowance for Funds Used During Construction as % of Net Income	4.3	2.3	1.8	1.1	1.3	2.1	2.3
Expenses							
Operating Expenses as % of Operating Revenue	95.5	95.2	94.8	94.2	93.6	92.6	91.6
Maintenance Expenses as % of Total Plant	2.2	2.5	2.5	2.4	2.4	2.2	2.1
Depreciation Expenses as % of Total Plant	3.2	3.4	3.3	3.3	3.5	3.3	3.3
Depreciation Expenses as % of Depreciable Plant	3.3	3.4	3.4	3.4	3.6	3.3	3.3
Total Taxes as % of Total Plant	9.7	11.2	11.7	10.8	9.7	8.0	7.0
Total Taxes as % of Net Plant	14.1	16.5	17.5	16.0	14.4	11.9	10.3
Total Taxes as % of Net Income plus Total Taxes	71.7	70.3	69.1	69.4	71.6	68.5	60.8
Current Federal Income Tax as % of Net Income plus current Federal Income Tax[c]	29.9	28.8	40.6	33.4	38.6	37.2	27.5
Plant							
Total Plant as % of Total Operating Revenue	66.6	66.0	69.0	80.8	97.6	117.0	130.0
Net Plant as % of Total Operating Revenue	45.6	44.7	46.1	54.6	65.8	79.0	85.6
Depreciation Reserve as % of Total Plant	31.4	32.2	33.1	32.4	32.6	32.5	32.1
Depreciation Reserve as % of Depreciable Plant	32.0	32.8	33.9	33.2	33.1	33.2	32.8
Total Plant per Employee ($000)	234.1	241.4	259.2	281.3	301.9	325.0	352.3
Capitalization							
Long-term Debt as % of Net Plant	41.4	40.5	39.1	38.0	40.2	38.8	41.4
% Total Capitalization Represented by:							
a. Long-term Debt	46.0	44.1	43.1	42.4	45.5	44.6	45.0
b. Preferred Stock	4.5	4.9	4.6	4.2	3.6	3.4	3.0
c. Common Equity	49.5	51.0	52.3	53.4	50.9	52.0	52.0
% Current Year Financing of Construction Expenditures Represented by:							
a. Internal Sources	55.0	65.2	78.0	73.1	52.9	56.9	47.4
b. Equity Issues	22.6	14.8	7.3	4.9	7.9	14.6	14.4
c. Debt Issues	22.4	20.0	14.7	22.0	39.2	28.5	38.2

a. Not available.
b. Reflects pre-federal income tax coverage.
c. Includes "Investment Tax Credit Adjustment."
R–Revised

TABLE 14-3
SELECTED COMPOSITE ANALYTICAL RATIOS INVESTOR-OWNED GAS UTILITY INDUSTRY TRANSMISSION COMPANIES, 1970-1988

	1970	1975	1980	1985	1986	1987[R]	1988
Earnings							
Utility Operating Income as % of Total Plant	5.3	6.8	6.7	5.9	6.0	4.9	3.4
Utility Operating Income as % of Net Plant	7.8	11.7	12.7	12.9	12.6	11.9	8.3
Operating Revenue as % of Total Plant	36.2	58.5	137.2	117.0	79.4	63.7	57.8
Common Dividend Payout Ratio	72.5	50.9[a]	56.3[a]	124.5[a]	167.4[a]	189.2[a]	96.4[a]
Return on Common Equity	11.7	14.9[a]	15.6[a]	8.5[a]	5.4[a]	4.4[a]	6.7[a]
Return on Average Common Equity	12.1	15.8	16.4	8.5	c	4.2	6.9
Return on Net Plant	4.4	10.1	13.8	8.9	5.6	4.9	7.4
Pretax Coverage of:							
Total Interest Expense[b]	2.5	3.6	3.9	2.9	2.3	1.8	1.7
Long-Term Debt Interest Expense[b]	3.0	4.3	5.2	3.7	3.2	2.7	3.0
Allowance for Funds Used During Construction of % of Net Income	4.3	3.0	5.4	2.5	2.7	3.3	3.2
Expenses							
Operating Expenses as % of Operating Revenue	85.8	88.8	95.4	95.3	93.2	93.0	94.2
Maintenance Expenses as % of Total Plant	0.7	0.9	1.3	1.3	1.4	1.3	1.3
Depreciation Expenses as % of Total Plant	3.1	4.4	4.1	3.8	3.9	3.4	3.4
Depreciation Expenses as % of Depreciable Plant	c	4.4	4.5	3.8	4.1	3.5	3.4
Total Taxes as % of Total Plant	2.3	5.0	6.6	5.1	4.5	3.2	1.3
Total Taxes as % of Net Plant	3.4	8.6	12.5	11.0	9.5	7.8	3.1
Total Taxes as % of Net Income plus Total Taxes	40.0	44.6[a]	46.1[a]	53.0[a]	59.3[a]	57.6[a]	28.4[a]
Current Federal Income Tax as % of Net Income plus current Federal Income Tax[d]	26.2	35.6[a]	28.4[a]	39.6[a]	39.3[a]	16.5[a]	8.8[a]
Plant							
Total Plant as % of Total Operating Revenue	276.0	171.0	72.9	85.4	125.9	157.0	172.9
Net Plant as % of Total Operating Revenue	186.4	98.5	38.4	39.2	60.1	64.8	71.5
Depreciation Reserve as % of Total Plant	32.5	42.4	47.3	54.1	52.2	58.7	58.7
Depreciation Reserve as % of Depreciable Plant	c	43.8	52.1	55.5	54.3	59.9	59.2
Total Plant per Employee ($000)	505.0	547.1	673.1	844.0	895.8	967.0	1,069.5
Capitalization							
Long-term Debt as % of Net Plant	62.1	71.8	64.1	64.3	58.8	73.3	70.6
% Total Capitalization Represented by:							
a. Long-term Debt	57.1	48.6	39.4	36.4	34.9	39.3	38.6
b. Preferred Stock	8.5	5.8	6.7	4.3	3.4	1.5	0.9
c. Common Equity	34.4	45.5	53.9	59.3	61.7	59.2	60.5
% Current Year Financing of Construction Expenditures Represented by:							
a. Internal Sources	c	55.4	65.1	75.9	69.0	57.9	62.1
b. Equity Issues	c	3.7	6.0	0.0	3.8	0.0	0.0
c. Debt Issues	c	40.9	28.9	24.1	27.2	42.1	37.9

a. Not comparable with 1970 and prior years due to a 1973 Federal Power Commission ruling requiring adoption of the equity method in reporting earnings of subsidiaries.

b. Reflects pre-federal income tax coverage.

c. Not available.

d. Includes "Investment Tax Credit Adjustment."

R–Revised.

TABLE 14-4
SELECTED COMPOSITE ANALYTICAL RATIOS INVESTOR-OWNED GAS UTILITY INDUSTRY INTEGRATED COMPANIES, 1982-1988

	1982	1983	1984	1985	1986	1987[R]	1988
Earnings							
Utility Operating Income as % of Total Plant	7.1	7.5	8.3	7.5	7.5	6.7	6.8
Utility Operating Income as % of Net Plant	10.9	11.7	12.9	12.6	11.6	10.6	11.0
Operating Revenue as % of Total Plant	143.2	140.7	134.5	122.5	100.9	79.3	78.3
Common Dividend Payout Ratio	66.2	74.1	78.7	154.6	79.7	79.5	118.8
Return on Common Equity	14.2	12.8	13.1	5.6	11.9	11.5	8.7
Return on Average Common Equity	14.9	13.2	13.0	a	a	11.8	a
Return on Net Plant	8.6	8.4	8.8	4.4	7.3	6.6	4.4
Pretax Coverage of:							
Total Interest Expense[b]	3.0	3.4	3.7	2.3	3.0	2.7	2.2
Long-Term Debt Interest Expense[b]	4.2	4.1	4.4	3.5	4.4	4.1	3.7
Allowance for Funds Used During Construction as % of Net Income	1.8	0.9	0.7	1.5	1.0	1.5	2.1
Expenses							
Operating Expenses as % of Operating Revenue	95.2	94.8	93.9	94.0	92.7	91.7	91.4
Maintenance Expenses as % of Total Plant	2.4	2.2	2.3	2.2	2.2	1.9	1.9
Depreciation Expenses as % of Total Plant	3.5	3.7	3.6	4.0	3.1	3.2	3.3
Depreciation Expenses as % of Depreciable Plant	3.7	3.9	3.8	4.0	a	3.3	3.4
Total Taxes as % of Total Plant	8.5	9.2	9.9	8.4	8.4	6.4	6.2
Total Taxes as % of Net Plant	13.0	14.3	15.6	14.1	13.0	10.1	10.0
Total Taxes as % of Net Income plus Total Taxes	59.0	61.3	61.2	71.7	62.7	58.8	67.8
Current Federal Income Tax as % of Net Income plus current Federal Income Tax[c]	20.1	34.4	39.7	51.4	21.3	41.6	40.2
Plant							
Total Plant as % of Total Operating Revenue	69.8	71.1	74.4	81.6	99.1	126.1	127.8
Net Plant as % of Total Operating Revenue	45.7	45.7	47.5	48.6	64.2	79.7	79.0
Depreciation Reserve as % of Total Plant	34.6	35.8	36.1	40.4	35.2	36.8	38.2
Depreciation Reserve as % of Depreciable Plant	36.8	38.0	38.4	40.6	35.9	37.8	38.8
Total Plant per Employee ($000)	259.0	275.1	289.7	328.0	294.6	337.9	355.8
Capitalization							
Long-term Debt as % of Net Plant	52.5	52.7	52.6	37.1	52.9	48.3	49.9
% Total Capitalization Represented by:							
a. Long-term Debt	44.2	42.4	41.2	40.6	44.5	43.4	47.4
b. Preferred Stock	4.8	4.5	5.0	3.7	4.2	4.7	4.8
c. Common Equity	51.0	53.2	53.8	55.7	51.3	51.9	47.8
% Current Year Financing of Construction Expenditures Represented by:							
a. Internal Sources	48.5	69.3	78.5	89.7	66.3	67.0	74.9
b. Equity Issues	3.8	9.7	5.3	3.0	0.4	11.1	0.6
c. Debt Issues	47.7	21.0	16.2	7.3	33.3	21.9	24.5

a. Not available.
b. Reflects pre-federal income tax coverage.
c. Includes "Investment Tax Credit Adjustment."
R–Revised.

TABLE 14-5
SELECTED COMPOSITE ANALYTICAL RATIOS INVESTOR-OWNED GAS UTILITY INDUSTRY COMBINATION COMPANIES, 1982–1988

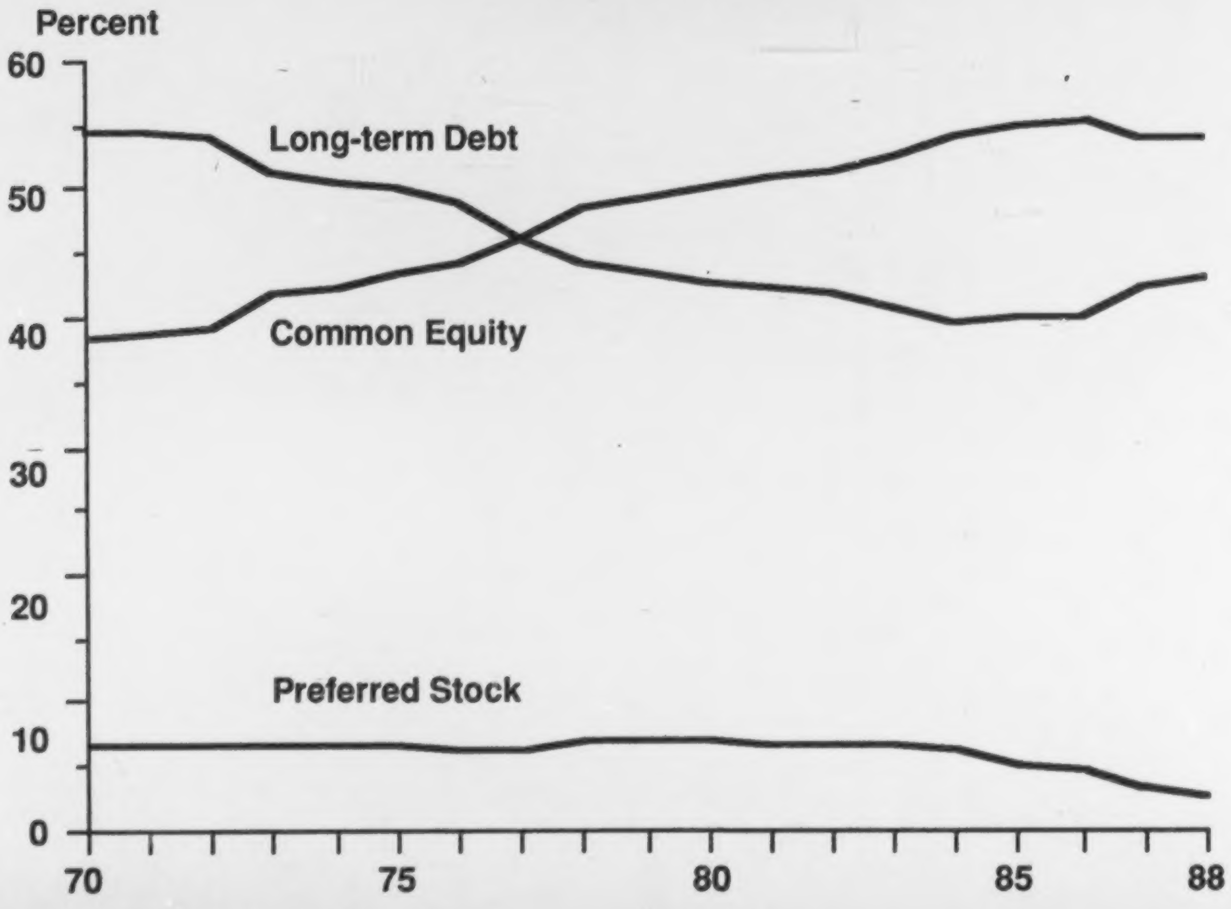
	1982	1983	1984	1985	1986	1987^R	1988
Gas Operations							
Earnings							
Utility Operating Income as % of Total Plant	8.2	8.4	9.3	8.7	7.5	6.8	6.6
Utility Operating Income as % of Net Plant	12.2	12.7	14.3	11.5	10.0	9.3	9.2
Operating Revenue as % of Total Plant	128.6	129.7	129.5	121.5	96.0	84.2	81.8
Common Dividend Payout Ratio	57.9	62.0	52.7	71.6	70.9	89.7	117.7
Return on Common Equity	17.2	17.0	19.2	12.0	12.0	10.1	7.5
Return on Average Common Equity	17.9	17.4	19.8	13.2	c	10.1	c
Return on Net Plant	6.8	6.8	8.1	5.0	5.1	4.2	3.1
Pretax Coverage of:							
Total Interest Expense[a]	3.2	3.3	3.6	3.4	3.1	3.1	2.6
Long-Term Debt Interest Expense[a]	3.8	3.7	4.0	3.7	3.4	3.5	3.0
Allowance for Funds Used During Construction as % of Net Income	31.0	34.5	26.8	28.3	20.1	12.6	12.5
Expenses							
Operating Expenses as % of Operating Revenue	94.9	94.9	94.1	93.9	93.1	92.5	92.4
Maintenance Expenses as % of Total Plant	2.5	2.4	2.4	2.4	2.3	2.3	2.3
Depreciation Expenses as % of Total Plant	3.2	3.3	3.5	3.6	3.7	3.7	3.8
Depreciation Expenses as % of Depreciable Plant	3.3	3.6	3.7	3.7	3.9	3.8	4.1
Total Taxes as % of Total Plant	8.9	9.1	10.1	9.7	8.4	7.8	6.8
Total Taxes as % of Net Plant	13.2	13.8	15.5	12.8	11.2	10.6	9.6
Total Taxes as % of Net Income plus Total Taxes	62.5	63.2	62.2	67.9	65.3	68.5	72.5
Current Federal Income Tax as % of Net Income plus current Federal Income Tax[b]	22.8	20.1	40.1	38.5	28.6	37.8	37.2
Plant							
Total Plant as % of Total Operating Revenue	77.8	77.1	77.2	82.3	104.2	118.7	122.2
Net Plant as % of Total Operating Revenue	52.6	51.1	50.3	62.2	77.6	87.2	87.5
Depreciation Reserve as % of Total Plant	32.4	33.7	34.9	24.4	25.5	26.6	28.4
Depreciation Reserve as % of Depreciable Plant	33.7	36.3	36.5	25.4	26.9	27.7	30.0
Total Plant per Employee ($000)	267.4	280.2	298.3	299.2	318.8	342.1	383.0
All Operations							
Earnings							
Utility Operating Income as % of Total Plant	7.6	7.9	8.0	7.6	7.3	6.5	6.8
Utility Operating Income as % of Net Plant	9.8	10.2	10.5	10.0	9.8	8.8	9.4
Operating Revenue as % of Total Plant	42.6	40.8	42.1	52.3	36.9	34.2	34.6
Common Dividend Payout Ratio	69.4	68.6	63.7	74.1	69.6	110.4	117.6
Return on Common Equity	12.9	13.5	13.8	11.8	12.6	8.3	7.7
Return on Average Common Equity	13.8	14.4	13.9	12.3	c	8.3	7.8
Return on Net Plant	5.0	5.3	5.7	4.9	5.3	3.4	3.1
Pretax Coverage of:							
Total Interest Expense[a]	2.9	3.1	3.2	3.0	3.2	2.9	2.2
Long-Term Debt Interest Expense[a]	3.4	3.4	3.5	3.3	3.5	3.2	2.4
Allowance for Funds Used During Construction as % of Net Income	37.0	41.5	34.8	37.2	26.6	22.7	18.9
Expenses							
Operating Expenses as % of Operating Revenue	86.2	85.6	85.2	84.9	83.5	83.0	81.8
Maintenance Expenses as % of Total Plant	2.2	2.1	2.2	2.2	2.2	2.2	2.3
Depreciation Expenses as % of Total Plant	2.5	2.4	2.6	2.6	2.7	2.8	3.1
Depreciation Expenses as % of Depreciable Plant	3.3	3.4	3.5	3.5	3.4	3.2	3.3
Total Taxes as % of Total Plant	5.4	5.6	6.2	5.9	6.1	5.4	4.7
Total Taxes as % of Net Plant	7.0	7.3	8.1	7.8	8.1	7.3	6.5
Total Taxes as % of Net Income plus Total Taxes	54.3	54.0	55.2	57.7	57.1	64.5	63.8
Current Federal Income Tax as % of Net Income plus current Federal Income Tax[b]	28.7	23.2	27.4	28.5	25.7	33.4	30.6
Plant							
Total Plant as % of Total Operating Revenue	234.8	245.4	237.4	252.4	270.8	292.7	289.2
Net Plant as % of Total Operating Revenue	180.8	189.6	180.6	191.2	202.3	215.7	207.8
Depreciation Reserve as % of Total Plant	23.0	22.7	23.9	24.2	25.3	26.3	28.1
Depreciation Reserve as % of Depreciable Plant	30.4	32.1	32.3	32.0	32.1	30.4	30.0
Capitalization							
Long-term Debt as % of Net Plant	44.7	44.3	45.8	44.8	44.6	44.8	46.1
% Total Capitalization Represented by:							
a. Long-term Debt	47.1	46.7	46.8	46.7	46.7	47.9	49.0
b. Preferred Stock	12.3	12.1	11.2	10.2	9.1	8.4	8.1
c. Common Equity	40.6	41.3	42.0	43.1	44.2	43.7	42.9
% Current Year Financing of Construction Expenditures Represented by:							
a. Internal Sources	49.8	54.7	45.4	52.3	60.7	72.4	76.1
b. Equity Issues	30.3	18.6	20.2	28.6	6.5	6.4	8.2
c. Debt Issues	19.9	26.7	34.4	19.1	32.8	21.2	15.7

a. Reflects pre-federal income tax coverage.
b. Includes "Investment Tax Credit Adjustment."
c. Not available.
R–Revised.

CHART 14-1

GAS UTILITY INDUSTRY TOTAL CAPITALIZATION

(INVESTOR OWNED)



REFERENCE: TABLE 14-1

SECTION 15
SECURITY ISSUES

	1988	% Change 88/87
No. of Issues		
Total	331	− 7.8
Common Stock	161	−11.5
Preferred	13	−35.0
Debt Issues	157	0.0
Amount (Thousands)		
Total	$11,773,337	− 9.4
Common Stock	2,036,077	+53.7
Preferred Stock	443,290	−55.7
Debt Issues	9,293,970	−12.9

TABLE 15-3
GAS UTILITY INDUSTRY LONG TERM DEBT ISSUES, BY MOODY'S BOND RATING CATEGORY, 1988

	Issues		Cost %		Yield %	
Rating	Number	Sample Amount (000)	Average	Weighted Average	Average	Weighted Average
Aaa	2	$ 200,000	9.89	9.89	9.82	9.82
Aa	8	$ 415,025	9.64	9.70	9.52	9.60
A	8	$ 687,561	9.21	9.28	9.13	9.21
Baa	10	$ 1,092,200	9.63	9.68	9.52	9.60
Ba	*	*	*	*	*	*
B	*	*	*	*	*	*

*No issues used in this sample.

TABLE 15-4
GAS UTILITY INDUSTRY COMMON STOCK ISSUES, BY TYPE OF COMPANY
1982-1988[a]

Type of Company	1982	1983	1984	1985	1986	1987	1988
Total							
Amount (000)	$3,832,926	$4,855,205	$2,852,559	$2,428,977	$1,906,278	$1,324,596	$2,036,077
No. of Issues	287	275	229	222	186	182	161
Distribution							
Amount (000)	$69,503	$272,950	$224,065	$304,841	$300,911	$109,011	$247,391
No. of Issues	30	43	34	62	65	67	58
Transmission							
Amount (000)	$375,298	$159,889	$35,625	$300	$1,000	$6,973	$32,014
No. of Issues	10	7	1	1	1	4	2
Integrated							
Amount (000)	$121,926	$1,835,208	$334,095	$35,023	$26,593	$76,820	$96,674
No. of Issues	44	34	39	16	10	16	18
Combination Utilities							
Amount (000)	$2,984,412	$2,394,543	$1,742,913	$1,767,779	$1,469,309	$951,863	$1,094,330
No. of Issues	194	183	136	121	99	83	66
Holding[b]							
Amount (000)	$281,787	$192,615	$515,861	$321,034	$108,465	$179,929	$565,668
No. of Issues	9	8	19	22	11	12	17

a. See Footnote "b", Table 15-1 for description of securities included and the derivation of stated amounts.

b. A holding company is a corporation that is formed for the sole purpose of owning stock in other companies. Names of companies included in Footnote "a" of Table 15-1.

TABLE 15-5
GAS UTILITY INDUSTRY INDEXES OF COMMON STOCK PRICES, DIVIDENDS, YIELDS, AND EARNINGS BY TYPE OF COMPANY, 1983–1988

Year	1983		1984		1985		1986		1987		1988	
Type of Company / Week	Jul 1	Dec 30	Jun 29	Dec 30	Jun 28	Dec 31	Jul 1	Dec 30	Jun 30	Dec 29	July 1	Dec 30
Natural Gas Industry												
a) Market Price ($ Per Share)	113.52	113.40	109.88	116.05	135.91	138.65	130.83	122.52	165.38	127.07	144.37	143.08
b) Dividend ($ Per Share)	7.05	7.29	7.44	7.71	7.89	8.12	8.02	7.69	7.61	7.51	7.12	7.40
c) Yield (Percent)	6.21	6.43	6.77	6.64	5.81	5.86	6.13	6.27	4.60	5.91	4.93	5.17
d) Earnings ($ Per Share)[a]	13.11	12.92	14.88	12.46	9.48	8.48	9.48	8.47	3.26	6.68	b	b
Distribution Companies												
a) Market Price ($ Per Share)	55.49	55.79	56.87	69.70	81.61	76.58	95.58	88.66	88.48	75.96	89.63	86.76
b) Dividend ($ Per Share)	5.42	5.55	5.67	5.88	6.03	6.22	5.51	5.71	5.84	6.02	6.13	6.30
c) Yield (Percent)	9.77	9.95	9.97	8.44	7.39	8.12	5.76	6.44	6.60	7.93	6.84	7.22
d) Earnings ($ Per Share)[a]	6.34	6.66	9.99	2.58	2.43	2.42	2.43	7.42	8.37	8.00	b	b
Transmission Companies												
a) Market Price ($ Per Share)	141.88	142.96	137.19	145.38	167.48	175.87	176.25	154.25	194.30	141.81	173.26	178.01
b) Dividend ($ Per Share)	8.59	8.89	9.04	9.39	9.66	9.91	9.93	9.22	9.23	8.86	8.86	8.86
c) Yield (Percent)	6.05	6.22	6.59	6.46	5.77	5.63	5.63	5.97	4.75	6.25	5.11	4.98
d) Earnings ($ Per Share)[a]	16.99	15.81	18.16	17.01	13.70	9.97	13.70	9.97	3.16	4.25	b	b

a. Earnings are for twelve month periods.
b. 1988 data not available.
Source: Moody's Investor Service, *Moody's Public Utility News Reports.*

TABLE 14-6
SELECTED ANALYTICAL RATIOS RELATING TO INVESTOR-OWNED GAS UTILITY INDUSTRY OPERATING AND MAINTENANCE EXPENSES, 1980–1988[a]

	Total Operating and Maintenance Expense per Therm of Sales (cents)					Total Operating Revenue per Therm of Sales (cents)				
Type of Activity	1980	1985	1986	1987	1988	1980	1985	1986	1987	1988
Natural Gas Distribution[b]	29.37	46.65	43.06	39.95	39.47	34.82	56.68	53.66	50.68	50.36
Natural Gas Transmission	22.12	35.62	31.87	29.79	31.81	25.23	40.57	38.60	36.08	36.90

	Transmission and Distribution Expense per Mile of Pipe (dollars)					Total Cost of Purchases as Percent of Total Operating and Maintenance Expense (%)				
Type of Activity	1980	1985	1986	1987	1988	1980	1985	1986	1987	1988
Natural Gas Distribution[b]	2,666.68	3,396.86	3,531.81	3,576.91	3,744.18	85.80	84.21	80.54	77.33	76.64
Natural Gas Transmission	11,510.06	13,899.46	12,101.60	11,064.36	11,321.37	90.66	87.12	81.38	78.00	76.82

	Customer Accounts Expense Per Customer (dollars)					Total Payroll as Percent of Total Operating and Maintenance Expense (%)				
Type of Activity	1980	1985	1986	1987	1988	1980	1985	1986	1987	1988
Natural Gas Distribution[b]	22.68	33.33	33.32	32.65	33.69	9.05	8.92	10.71	12.41	13.02
Natural Gas Transmission						2.97	4.10	5.70	6.73	6.87

	Gross Sales Expense per Customer (dollars)				
Type of Activity	1980	1985	1986	1987	1988
Straight Natural Gas Distribution	2.94	4.95	5.27	5.19	6.25
Combination Natural Gas Distribution	0.60	1.07	1.35	1.54	2.11

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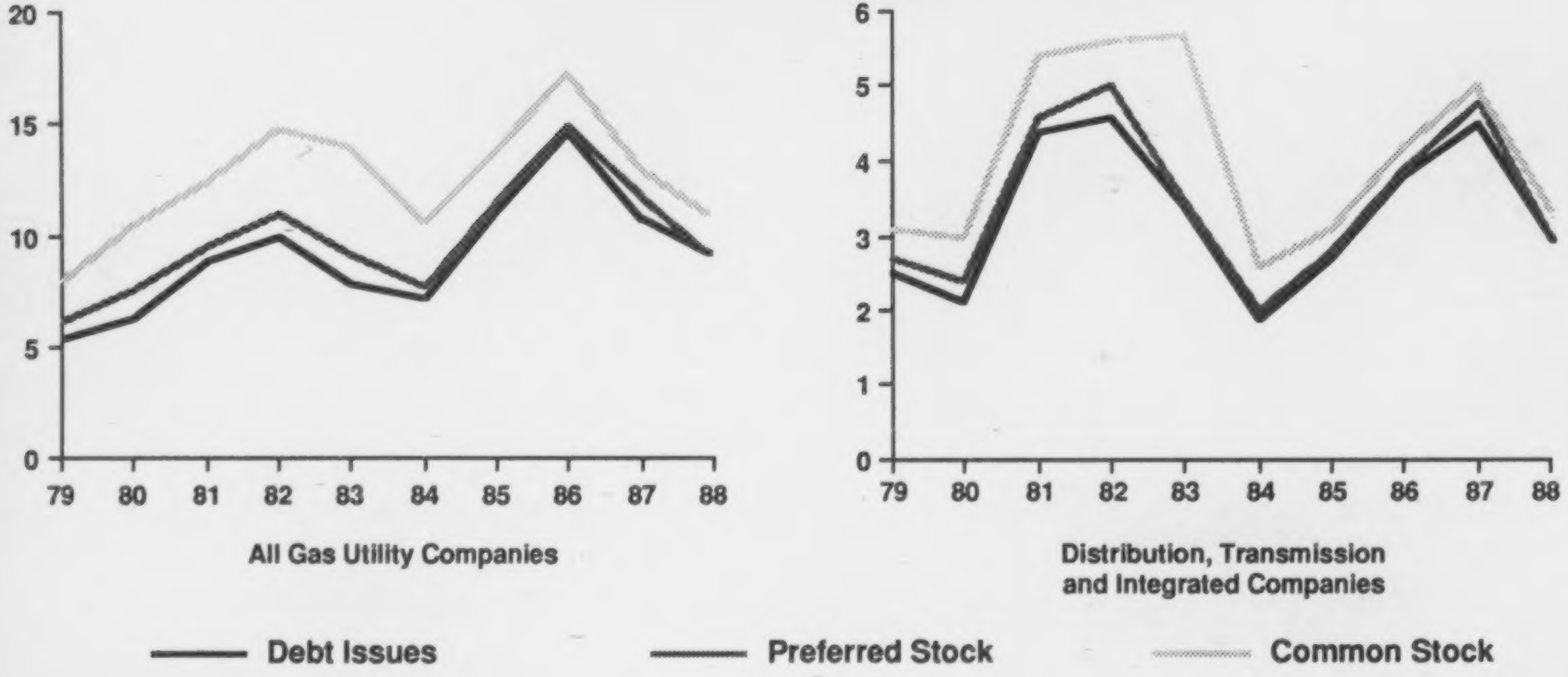
a. Integrated companies excluded.

b. Includes both straight gas and combination companies.

CHART 15-1

GAS UTILITY NEW SECURITY ISSUES
(BILLIONS OF DOLLARS)



All Gas Utility Companies

Distribution, Transmission and Integrated Companies

REFERENCE: TABLES 15-1, 15-4, 15-6, 15-8, 15-10, 15-12

TABLE 15-1

GAS UTILITY INDUSTRY SECURITY ISSUES OF DISTRIBUTION, INTEGRATED, TRANSMISSION, HOLDING,[a] AND COMBINATION GAS AND ELECTRIC COMPANIES

1970-1988[b]

	Total		Common Stock		Preferred Stock		Debt Issues							
							Total		Bonds		Debentures		Notes	
Year	No. of Issues	Amount (000)	No. of Issues	Amount (000)	No. of Issues	Amount (000)	No. of Issues	Amount (000)	No. of Issues	Amount (000)	No. of Issues	Amount (000)	No. of Issues	Amount (000)
1970	280	$ 6,030,084	68	$ 745,638	33	$ 620,674	179	$ 4,663,772	125	$ 3,502,000	27	$ 897,500	27	$ 264,272
1971	330	7,012,900	96	1,283,271	47	965,439	187	4,764,190	103	3,193,366	26	927,500	58	643,324
1972	280	6,832,495	83	1,306,307	39	1,185,808	158	4,340,380	87	3,032,306	13	554,500	58	753,574
1973	286	6,302,378	96	1,408,410	39	1,073,959	151	3,820,009	82	2,466,690	6	260,000	63	1,093,319
1974	286	7,889,359	102	1,144,544	39	1,128,175	145	5,616,640	78	3,950,281	17	739,519	50	926,840
1975	353	8,312,575	141	1,973,385	42	1,059,396	170	5,279,794	101	3,661,125	19	911,571	50	707,098
1976	336	9,104,026	152	2,472,747	41	1,108,268	143	5,523,011	75	2,899,279	16	860,500	52	1,763,232
1977	336	8,244,438	167	1,864,904	40	1,106,130	129	5,273,404	70	2,956,200	10	461,500	49	1,855,704
1978	351	7,933,090	163	2,167,077	48	1,055,458	140	4,710,555	73	3,189,650	12	306,516	55	1,214,389
1979	322	7,959,649	162	1,860,954	30	773,692	130	5,325,003	69	2,908,350	11	895,000	50	1,521,653
1980	275	10,508,334	101	2,879,775	31	1,288,237	143	6,340,322	73	3,571,945	18	1,510,000	52	1,258,377
1981	472	12,384,931	246	2,816,829	27	654,940	199	8,913,162	110	5,051,554	16	1,207,500	73	2,654,108
1982	523	14,794,327	287	3,832,926	32	1,073,300	204	9,888,101	107	4,538,410	20	1,356,000	77	3,993,691
1983	499	14,014,964	275	4,855,205	29	1,301,151	145	7,858,608	86	4,651,154	12	1,024,703	47	2,182,751
1984	386	10,596,488	229	2,852,559	13	538,000	144	7,205,929	90	4,452,571	12	838,250	42	1,915,108
1985	415	13,893,132	222	2,428,977	12	325,701	181	11,138,454	85	6,131,774	9	770,015	87	4,236,665
1986	415	17,218,513	186	1,906,278	15	596,318	214	14,715,917	126	9,628,924	28	2,586,000	60	2,500,993
1987	359	12,994,680	182	1,324,596	20	1,001,299	157	10,668,785	66	4,403,166	21	2,664,530	70	3,601,089
1988	331	11,773,337	161	2,036,077	13	443,290	157	9,293,970	72	4,906,629	14	1,298,146	71	3,089,195

[a] Holding companies used in this section are as follows: Columbia Gas Systems, Inc., Connecticut Energy Corp., Energen, New Jersey Resources Corp., Northeast Utilities, Northern States Power Company, Public Service Company of Colorado, Tenneco, Inc., Texas Eastern Corp., Texas Utilities Company, Utilicorp United, Inc., Washington Energy Company, and Wisconsin Electric Power Company.

[b] All new and refunding security issues, except sales by subsidiaries to parent companies and direct exchanges for which data were obtainable have been included. Short term notes for less than one year are omitted. Bonds, debentures, and notes are included in principal amounts; preferred stocks at stated or liquidating values; and common stocks at offerings prices.

TABLE 15-2
GAS UTILITY INDUSTRY AVERAGE PERCENT COST AND YIELD OF SECURITY ISSUES OF DISTRIBUTION, INTEGRATED, TRANSMISSION, HOLDING,[a] AND COMBINATION GAS AND ELECTRIC COMPANIES
1970-1988[b]

	Preferred Stock				Bonds				Debentures				Sample Amount (000)		
	Cost %		Yield %		Cost %		Yield %		Cost %		Yield %				
Year	Average	Weighted Average	Average	Weighted Average	Average	Weighted Average	Average	Weighted Average	Average	Weighted Average	Average	Weighted Average	Preferred Stock	Bonds	Debentures
1970	9.25	9.27	9.16	9.18	9.04	9.08	9.06	9.26	9.16	9.36	9.06	9.26	$ 570,674	$3,492,500	$ 897,000
1971	8.16	7.98	8.05	7.87	8.06	7.90	7.97	7.81	8.16	8.14	8.07	8.05	922,312	3,098,589	912,500
1972	7.70	7.65	7.62	7.56	7.60	7.56	7.53	7.50	7.53	7.44	7.46	7.38	1,074,539	2,631,306	455,500
1973	7.72	7.61	7.66	7.54	7.98	7.93	7.91	7.87	7.80	7.77	7.73	7.71	1,051,459	2,137,890	200,000
1974	9.96	9.83	9.82	9.68	9.76	9.84	9.67	9.75	9.48	9.34	9.40	9.25	996,175	3,222,000	535,000
1975	10.87	10.89	10.55	10.53	10.10	10.06	10.00	9.97	10.28	10.31	10.17	10.20	1,028,515	3,346,050	801,000
1976	10.15	9.49	9.16	9.24	8.96	9.01	8.87	8.93	8.88	8.87	8.81	8.80	1,050,268	2,826,590	735,000
1977	8.50	8.45	8.34	8.31	8.51	8.50	8.45	8.44	8.74	8.36	8.63	8.29	973,512	2,682,500	265,000
1978	8.84	8.90	8.75	8.68	8.40	8.18	8.38	8.01	9.26	9.02	9.12	8.89	806,206	2,669,900	150,000
1979	9.05	9.32	9.03	9.23	11.14	10.55	11.12	10.48	10.81	11.12	10.65	11.04	705,500	2,348,300	645,000
1980	11.91	12.40	11.67	12.20	11.99	12.92	11.90	12.82	13.07	12.67	12.97	12.57	935,500	3,038,400	925,000
1981	13.75	14.06	13.57	13.80	15.06	16.55	14.77	16.29	16.24	16.11	15.80	15.76	630,500	3,956,154	1,207,500
1982	14.39	14.61	14.20	14.32	14.39	14.94	14.27	14.82	15.46	15.19	15.17	14.95	858,800	3,914,100	1,356,000
1983	11.69	12.18	11.42	11.85	11.82	12.10	11.63	11.96	12.40	13.54	12.23	13.39	1,209,175	3,958,380	780,000
1984	13.34	13.22	13.11	12.97	12.61	12.99	12.43	12.84	11.82	11.83	11.72	11.72	538,000	3,662,570	786,250
1985	11.68	11.67	11.65	11.67	10.80	11.13	10.47	10.93	11.24	11.58	11.11	11.46	101,000	4,477,947	722,189
1986	9.06	9.50	8.98	9.43	9.30	9.53	9.13	9.43	9.65	10.20	9.47	10.00	523,000	7,679,027	2,566,000
1987	7.50	7.38	7.37	7.34	9.25	9.56	9.18	9.49	9.29	9.26	9.09	9.15	544,174	3,614,455	1,503,500
1988	8.84	8.75	8.76	8.67	9.83	9.75	9.72	9.67	10.15	10.09	9.96	9.95	344,500	3,334,286	1,282,000

a. Refer to Table 15-1 for name of holding companies.

b. Includes only those preferred stocks, bonds, and debentures shown in Table 15-1 for which necessary cost and yield data were available.

Definitions: "Cost" refers to the expenses incurred by a company relative to new security issues over the life of debt issues and fixed dividends (if applicable) on preferred stocks. It includes underwriter fees, plus discount expenses less premiums.

"Yield" is the rate of return on investment by a buyer of these debt issues and fixed dividends (if applicable) expected on preferred stock. It includes underwriter fees, plus premium expenses less discounts.

TABLE 15-6

GAS UTILITY INDUSTRY PREFERRED STOCK ISSUES, BY TYPE OF COMPANY 1982-1988[a]

Type of Company	1982	1983	1984	1985	1986	1987	1988
Total							
Amount (000)	$1,073,300	$1,301,151	$538,000	$325,701	$596,318	$1,001,299	$443,290
No. of Issues	32	29	13	12	15	20	13
Distribution							
Amount (000)	$8,000	$30,000	$10,000	$361	$22,118	$76,000	$20,290
No. of Issues	1	1	1	3	3	5	2
Transmission							
Amount (000)	$285,000	$0	$0	$20,000	$90,000	$59,174	$0
No. of Issues	6	0	0	1	1	1	0
Integrated							
Amount (000)	$102,000	$89,494	$100,000	$0	$0	$130,000	$0
No. of Issues	4	5	1	0	0	1	0
Combination Utilities							
Amount (000)	$675,300	$998,922	$428,000	$177,200	$454,200	$305,000	$219,500
No. of Issues	20	19	11	6	10	8	8
Holding[b]							
Amount (000)	$3,000	$182,735	$0	$128,140	$30,000	$431,125	$203,500
No. of Issues	1	4	0	2	1	5	3

[a] See Footnote "b", Table 15-1 for description of securities included and the derivation of stated amounts.

[b] A holding company is a corporation that is formed for the sole purpose of owning stock in other companies. Names of companies included in Footnote "a" of Table 15-1.

TABLE 15-8
GAS UTILITY INDUSTRY BOND ISSUES, BY TYPE OF COMPANY
1982–1988[a]

Type of Company	1982	1983	1984	1985	1986	1987	1988
Total							
Amount (000)	$4,538,410	$4,651,154	$4,452,571	$6,131,774	$9,628,924	$4,403,166	$4,906,629
No. of Issues	107	86	90	85	126	66	72
Distribution							
Amount (000)	$135,000	$493,321	$117,355	$676,729	$798,539	$323,693	$668,168
No. of Issues	12	13	7	20	33	12	23
Transmission							
Amount (000)	$425,000	$225,000	$0	$0	$0	$220,400	$0
No. of Issues	4	2	0	0	0	2	0
Integrated							
Amount (000)	$150,647	$449,103	$227,150	$18,000	$313,000	$60,000	$18,000
No. of Issues	8	12	6	1	4	1	1
Combination Utilities							
Amount (000)	$3,701,163	$3,147,730	$3,922,866	$4,682,495	$6,813,105	$3,375,073	$3,111,961
No. of Issues	81	52	73	54	72	44	33
Holding[b]							
Amount (000)	$126,600	$336,000	$185,200	$754,550	$1,704,280	$424,000	$1,108,500
No. of Issues	2	7	4	10	17	7	15

a. See Footnote "b", Table 15-1 for description of securities included and the derivation of stated amounts.

b. A holding company is a corporation that is formed for the sole purpose of owning stock in other companies. Names of companies included in Footnote "a" of Table 15-1.

TABLE 15–10
GAS UTILITY INDUSTRY DEBENTURE ISSUES, BY TYPE OF COMPANY
1982–1988[a]

Type of Company	1982	1983	1984	1985	1986	1987	1988
Total							
Amount (000)	$1,356,000	$1,024,703	$838,250	$770,015	$2,586,000	$2,664,530	$1,298,146
No. of Issues	20	12	12	9	28	21	14
Distribution							
Amount (000)	$0	$165,000	$0	$0	$316,000	$229,500	$138,146
No. of Issues	0	3	0	0	10	6	4
Transmission							
Amount (000)	$703,000	$324,703	$437,000	$355,750	$650,000	$1,921,030	$450,000
No. of Issues	10	3	6	3	6	9	3
Integrated							
Amount (000)	$308,000	$460,000	$120,000	$224,039	$270,000	$214,000	$360,000
No. of Issues	4	5	3	2	3	4	5
Combination Utilities							
Amount (000)	$245,000	$75,000	$181,250	$190,226	$900,000	$0	$0
No. of Issues	5	1	2	4	5	0	0
Holding[b]							
Amount (000)	$100,000	$0	$100,000	$0	$450,000	$300,000	$350,000
No. of Issues	1	0	1	0	4	2	2

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[a] See Footnote "b", Table 15–1 for description of securities included and the derivation of stated amounts.

[b] A holding company is a corporation that is formed for the sole purpose of owning stock in other companies. Names of companies included in Footnote "a" of Table 15–1.

TABLE 15-12
GAS UTILITY INDUSTRY NOTE ISSUES, BY TYPE OF COMPANY
1982–1988[a]

Type of Company	1982	1983	1984	1985	1986	1987	1988
Total							
Amount (000)	$3,993,691	$2,182,751	$1,915,108	$4,236,665	$2,500,993	$3,601,089	$3,089,195
No. of Issues	77	47	42	87	60	70	71
Distribution							
Amount (000)	$550,515	$438,635	$185,600	$46,860	$81,873	$276,561	$130,108
No. of Issues	9	7	4	6	6	16	8
Transmission							
Amount (000)	$1,671,000	$613,058	$296,500	$753,500	$930,195	$993,274	$1,079,977
No. of Issues	19	9	5	17	11	15	10
Integrated							
Amount (000)	$647,675	$185,356	$369,626	$710,950	$484,899	$290,862	$176,043
No. of Issues	15	7	7	9	8	12	4
Combination Utilities							
Amount (000)	$1,124,501	$762,967	$640,182	$1,807,740	$705,420	$1,761,793	$903,972
No. of Issues	34	20	20	39	15	20	39
Holding[b]							
Amount (000)	$0	$182,735	$423,200	$917,615	$298,606	$278,599	$799,095
No. of Issues	0	4	6	16	20	7	10

a. See Footnote "b", Table 15-1 for description of securities included and the derivation of stated amounts.

b. A holding company is a corporation that is formed for the sole purpose of owning stock in other companies. Names of companies included in Footnote "a" of Table 15-1.

SECTION 16
CONSTRUCTION EXPENDITURES

	1988	% Change 88/87
Construction Expenditures		
(Millions)		
Total	$6,166	+15.7
Production & Storage	268	+ 6.8
Transmission	1,568	+21.1
Underground Storage	101	− 5.6
Distribution	3,389	+10.9
General	840	+35.5

TABLE 15-7
GAS UTILITY INDUSTRY AVERAGE PERCENT COST AND YIELD OF PREFERRED STOCK ISSUES
1982-1988[a]

	1982		1983		1984		1985		1986		1987		1988	
	Cost %	Yield %	Cost %	Yield %	Cost %	Yield %	Cost %	Yield %	Cost %	Yield %	Cost %	Yield %	Cost %	Yield %
Total														
Average	14.39	14.20	11.69	11.42	13.34	13.11	11.68	11.65	9.06	8.98	7.50	7.37	8.84	8.76
Weighted Average	14.61	14.32	12.18	11.85	13.22	12.97	11.67	11.67	9.50	9.43	7.38	7.34	8.75	8.67
Sample Amount (000)		$858,800		$1,209,175		$538,000		$101,000		$523,000		$544,174		$344,500
Distribution														
Average	13.00	13.00	11.76	11.50	12.88	12.88	c	c	c	c	9.28	9.17	8.77	8.77
Weighted Average	13.00	13.00	11.76	11.50	12.88	12.88	c	c	c	c	9.49	9.38	8.77	8.77
Sample Amount (000)		$8,000		$30,000		$10,000		$0		$0		$50,000		$20,000
Transmission														
Average	14.55	14.27	c	c	c	c	8.80	8.80	8.75	8.75	6.11	6.11	c	c
Weighted Average	14.63	14.28	c	c	c	c	8.80	8.80	8.75	8.75	6.11	6.11	c	c
Sample Amount (000)		$175,000		$0		$0		$20,000		$90,000		$59,174		$0
Integrated														
Average	14.00	14.00	11.16	10.92	10.88	10.62	c	c	c	c	c	c	c	c
Weighted Average	14.00	14.00	11.04	10.81	10.88	10.62	c	c	c	c	c	c	c	c
Sample Amount (000)		$5,000		$85,000		$100,000		$0		$0		$0		$0
Combination Utilities														
Average	14.45	14.26	11.79	11.51	13.60	13.35	12.63	12.60	9.10	9.01	6.79	6.75	9.22	9.16
Weighted Average	14.63	14.35	12.36	12.01	13.78	13.52	12.38	12.37	9.66	9.57	7.20	7.17	9.09	8.99
Sample Amount (000)		$670,800		$995,425		$428,000		$81,000		$433,000		$250,000		$174,500
Holding[b]														
Average	c	c	11.48	11.27	c	c	c	c	c	c	7.59	7.23	7.72	7.67
Weighted Average	c	c	11.46	11.26	c	c	c	c	c	c	7.45	7.40	8.34	8.33
Sample Amount (000)		$0		$98,750		$0		$0		$0		$185,000		$150,000

a. Includes only those issues in Table 15-6 for which necessary cost and yield data were available.

b. A holding company is a corporation that is formed for the sole purpose of owning stock in other companies. Names of companies included in Footnote "a" of Table 15-1.

c. No issues used in this sample.

Definitions: "Cost" refers to the expenses incurred by a company. It includes dividends, underwriter fees, plus discount expenses less premiums.
"Yield" is the rate of return on investment by a buyer.

TABLE 15-9
GAS UTILITY INDUSTRY AVERAGE PERCENT COST AND YIELD OF BOND ISSUES
1982-1988[a]

	1982		1983		1984		1985		1986		1987		1988	
	Cost %	Yield %	Cost %	Yield %	Cost %	Yield %	Cost %	Yield %	Cost %	Yield %	Cost %	Yield %	Cost %	Yield %
Total														
Average	14.39	14.27	11.82	11.63	12.61	12.43	10.80	10.47	9.30	9.13	9.25	9.18	9.83	9.72
Weighted Average	14.94	14.82	12.10	11.96	12.99	12.84	11.13	10.93	9.53	9.43	9.56	9.49	9.75	9.67
Sample Amount (000)		$3,914,100		$3,958,380		$3,662,570		$4,477,947		$7,679,027		$3,614,455		$3,334,286
Distribution														
Average	15.30	15.30	12.16	12.07	13.41	13.38	10.11	9.11	9.25	9.15	9.63	9.60	9.89	9.73
Weighted Average	15.81	15.81	12.67	12.56	12.81	12.72	9.11	8.80	9.18	9.09	9.28	9.22	9.65	9.55
Sample Amount (000)		$57,000		$350,450		$59,750		$400,200		$571,000		$193,000		$548,025
Transmission														
Average	13.79	13.58	13.04	12.91	c	c	c	c	c	c	c	c	c	c
Weighted Average	14.18	13.98	13.04	12.91	c	c	c	c	c	c	c	c	c	c
Sample Amount (000)		$225,000		$125,000		$0		$0		$0		$0		$0
Integrated														
Average	15.12	14.98	12.27	12.13	14.47	14.29	c	c	8.97	9.08	9.22	9.14	c	c
Weighted Average	15.39	15.23	12.08	11.97	14.34	14.22	c	c	8.97	9.08	9.22	9.14	c	c
Sample Amount (000)		$143,000		$394,000		$110,000		$0		$300,000		$60,000		$0
Combination Utilities														
Average	14.28	14.15	11.73	11.55	12.46	12.27	10.92	10.53	9.39	9.20	9.20	9.13	10.16	10.04
Weighted Average	14.95	14.83	12.09	11.96	12.92	12.78	11.30	11.10	9.66	9.55	9.59	9.52	9.53	9.45
Sample Amount (000)		$3,362,500		$2,777,930		$3,367,820		$3,802,747		$6,283,027		$3,027,455		$1,716,261
Holding[b]														
Average	14.66	14.38	10.93	10.50	13.88	13.82	11.82	11.75	8.74	8.57	9.18	9.07	10.03	9.97
Weighted Average	15.09	14.98	11.20	10.87	13.61	13.55	11.74	11.66	8.67	8.55	9.59	9.48	10.15	10.08
Sample Amount (000)		$126,600		$311,000		$125,000		$275,000		$525,000		$334,000		$1,070,000

a. Includes only those issues in Table 15-8 for which necessary cost and yield data were available.
b. A holding company is a corporation that is formed for the sole purpose of owning stock in other companies. Names of companies included in Footnote "a" of Table 15-1.
c. No issues used in this sample.
Definitions: "Cost" refers to the expenses incurred by a company. It includes dividends, underwriter fees, plus discount expenses less premiums. –
"Yield" is the rate of return on investment by a buyer.

TABLE 15-11
GAS UTILITY INDUSTRY AVERAGE PERCENT COST AND YIELD OF DEBENTURE ISSUES
1982-1988[a]

	1982		1983		1984		1985		1986		1987		1988	
	Cost %	Yield %	Cost %	Yield %	Cost %	Yield %	Cost %	Yield %	Cost %	Yield %	Cost %	Yield %	Cost %	Yield %
Total														
Average	15.46	15.17	12.40	12.23	11.82	11.72	11.24	11.11	9.65	9.47	9.29	9.09	10.15	9.96
Weighted Average	15.19	14.95	13.54	13.39	11.83	11.72	11.58	11.46	10.20	10.00	9.26	9.15	10.09	9.95
Sample Amount (000)		$1,356,000		$880,000		$786,250		$722,189		$2,566,000		$1,503,500		$1,282,000
Distribution														
Average	c	c	12.68	12.37	c	c	c	c	9.07	8.85	9.83	9.47	10.40	9.92
Weighted Average	c	c	12.41	12.23	c	c	c	c	9.06	8.78	9.84	9.63	10.34	9.92
Sample Amount (000)		$0		$165,000		$0		$0		$316,000		$219,500		$122,000
Transmission														
Average	15.85	15.66	13.30	13.19	13.16	13.06	12.56	12.42	9.79	9.70	9.33	9.24	10.02	9.92
Weighted Average	15.46	15.26	13.30	13.19	12.84	12.72	12.49	12.35	9.81	9.72	9.36	9.27	10.01	9.91
Sample Amount (000)		$703,000	-	$200,000		$385,000		$355,750		$650,000		$770,000		$450,000
Integrated														
Average	13.96	13.64	11.79	11.69	11.80	11.72	11.66	11.64	9.46	9.39	8.27	8.04	10.05	9.98
Weighted Average	13.85	13.63	11.21	11.12	12.30	12.26	11.75	11.73	9.37	9.29	7.11	6.98	9.99	9.90
Sample Amount (000)		$308,000		$440,000		$120,000		$224,039		$250,000		$214,000		$360,000
Combination Utilities														
Average	15.85	15.37	12.26	12.00	9.97	9.75	8.84	8.63	11.23	10.92	c	c	c	c
Weighted Average	15.95	15.53	12.26	12.00	10.26	10.03	9.02	8.81	11.69	11.36	c	c	c	c
Sample Amount (000)		$245,000		$75,000		$181,250		$142,400		$900,000		$0		$0
Holding[b]														
Average	15.57	15.57	c	c	10.26	10.25	c	c	9.00	8.90	9.91	9.81	10.25	10.05
Weighted Average	15.46	15.46	c	c	10.26	10.25	c	c	9.03	8.93	10.12	10.04	10.20	10.08
Sample Amount (000)		$100,000		$0		$100,000		$0		$450,000		$300,000		$350,000

a. Includes only those issues in Table 15-10 for which necessary cost and yield data were available.
b. A holding company is a corporation that is formed for the sole purpose of owning stock in other companies. Names of companies included in Footnote "a" of Table 15-1.
c. No issues used in this sample.

Definitions: "Cost" refers to the expenses incurred by a company. It includes dividends, underwriter fees, plus discount expenses less premiums.
"Yield" is the rate of return on investment by a buyer.

CONSTRUCTION EXPENDITURES

TABLE 16-1
GAS UTILITY INDUSTRY CONSTRUCTION EXPENDITURES, BY TYPE OF FACILITY, 1966–1992[a]

(Millions)

Year	Total	Production and Storage	Transmission	Underground Storage	Distribution	General
1966	$2,374	$ 182	$1,038	$151	$ 869	$134
1967	2,252	186	1,006	91	848	121
1968	2,972	259	1,577	88	913	135
1969	2,686	83	1,511	128	863	101
1970	2,507	203	1,019	167	913	205
1971	2,419	340	842	171	888	178
1972	2,822	717	678	177	1,081	169
1973	2,966	771	746	201	1,094	155
1974	2,965	830	632	230	1,097	176
1975	2,466	555	590	276	910	136
1976	2,425	466	531	362	926	140
1977	2,833	620	670	323	1,048	172
1978	3,581	881	935	321	1,228	215
1979	4,366	1,125	1,226	281	1,448	286
1980	5,350	1,150	1,583	396	1,869	352
1981	6,389	1,346	2,352	326	1,955	410
1982	5,939	1,322	1,921	368	1,881	447
1983	4,078	607	1,065	139	1,845	422
1984	4,645	422	1,301	121	2,266	535
1985	5,671	790	1,562	175	2,577	567
1986	5,342	258	1,448	125	2,920	591
1987	5,328	251	1,295	107	3,055	620
1988	6,166	268	1,568	101	3,389	840
1989(forecast)	7,654	275	2,787	189	3,591	812
~~1990(forecast)~~	7,797	395	2,824	106	3,762	710
1991(forecast)	7,168	302	2,351	81	3,736	698
1992(forecast)	7,091	311	2,274	64	3,758	684

a. For companies not reporting 1991 and 1992 forecasts, data extrapolated from earlier years.

TABLE 16-2
GAS UTILITY INDUSTRY CONSTRUCTION EXPENDITURES, BY TYPE OF FACILITY, 1982–1988

	1982	1983	1984	1985	1986	1987[R]	1988
Production and Storage	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
SNG Plant	2.7	0.5	0.8	0.3	0.5	0.1	a
LNG Plant	a	0.8	0.4	0.5	0.6	3.3	0.3
Propane Plant	3.8	7.3	11.3	0.6	1.8	2.0	1.5
Exploration and Drilling	22.1	22.6	25.7	28.5	32.1	6.2	41.0
Other[b]	66.1	65.8	54.5	64.9	51.3	70.2	38.5
LNG Storage	2.0	1.7	5.0	3.9	10.0	14.4	15.1
Other Storage	3.2	1.3	2.2	1.4	3.7	3.8	3.6
LNG Ships	0.0	0.0	a	0.0	0.0	0.0	0.0
Transmission	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
New and Replacement Pipe	77.3	72.5	73.2	72.4	76.9	81.9	75.8
Compressor Stations	18.8	21.4	20.6	21.3	17.4	13.3	20.0
Other	3.9	6.1	6.2	6.4	5.7	4.8	4.2
Distribution	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
New and Replacement Pipe	85.8	87.9	87.5	87.5	92.4	91.1	90.0
Compressor Stations	3.9	2.6	3.9	4.5	a	0.3	0.5
Other	10.3	9.5	8.6	8.0	7.6	8.6	9.5

a. Less than 0.1 percent.
b. Includes gathering.
R - Revised.

SECTION 17
PERSONNEL DATA

	1988	% Change 88/87
Gas Utility Employees		
(Thousands)		
Total	203.3	− 2.4
Distribution	59.6	+ 0.2
Transmission	42.8	− 3.3
Integrated	40.4	− 1.1
Combination	49.0	− 4.8
Municipals	11.5	− 6.5

PERSONNEL DATA

TABLE 17-1
GAS UTILITY INDUSTRY EMPLOYEES AND PAYROLL
1966–1988

Year	Average Number of Employees (Thousands)	Total Payroll (Thousands)	Average Wage per Employee
1966	207.4	$1,556,577	$ 7,500
1967	207.2	1,640,397	7,920
1968	208.6	1,759,784	8,440
1969	210.2	1,890,490	8,990
1970	211.7	2,021,197	9,550
1971	213.7	2,142,892	10,028
1972	215.4	2,321,932	10,780
1973	215.2	2,449,075	11,381
1974	213.4	2,606,903	12,216
1975	207.6	2,817,150	13,570
1976	205.1	3,044,605	14,844
1977	208.8	3,371,856	16,149
1978	209.8	3,647,057	17,383
1979	214.6	4,134,270	19,265
1980	215.4	4,612,791	21,415
1981	220.9	5,313,445	24,057
1982	227.8	5,998,666	26,342
1983	226.3	6,365,305	28,128
1984	221.2	6,602,168	29,849
1985	216.6	6,959,057	32,132
1986	214.1	7,072,535	33,019
1987[R]	208.3	7,092,959	34,051
1988	203.3	7,203,407	35,440

R–Revised.

TABLE 17-2

GAS UTILITY INDUSTRY EMPLOYEES AND PAYROLL BY TYPE OF PAYROLL AND TYPE OF COMPANY, 1970-1988

(Thousands)

	1970	1975	1980	1984	1985	1986	1987R	1988
Total								
Employees	211.7	207.6	215.4	221.2	216.6	214.1	208.3	203.3
Payroll—Total	$2,021,197	$2,817,150	$4,612,791	$6,602,168	$6,959,057	$7,072,535	$7,092,959	$7,203,407
Operating	1,606,321	2,292,448	3,652,941	5,292,915	5,515,089	5,717,005	5,730,423	5,814,331
Construction	325,546	380,835	627,706	890,048	962,353	986,504	1,008,797	1,013,383
Miscellaneous	89,330	143,867	332,144	419,205	481,615	369,026	353,739	375,693
Investor Owned—Total								
Employees	a	196.3	202.7	208.9	204.5	201.9	196.1	191.8
Payroll—Total	a	$2,675,092	$4,379,653	$6,285,649	$6,629,132	$6,730,941	$6,724,752	$6,860,839
Operating	a	2,184,446	3,463,437	5,016,924	5,227,943	5,419,464	5,425,114	5,537,227
Construction	a	357,221	594,326	862,091	993,035	957,301	962,186	969,345
Miscellaneous	a	133,425	321,890	406,634	468,154	354,176	337,452	354,267
Distribution								
Employees	a	51.3	52.1	46.2	61.8	59.3	59.5	59.6
Payroll—Total	a	$697,552	$1,040,436	$1,241,732	$1,736,309	$1,761,169	$1,846,586	$1,928,926
Operating	a	567,947	831,076	1,024,387	1,407,131	1,430,973	1,496,386	1,558,707
Construction	a	98,257	152,964	166,118	233,723	238,115	255,620	266,287
Miscellaneous	a	31,348	56,396	51,227	95,455	92,081	94,580	103,932
Transmission								
Employees	32.4	37.2	45.2	47.2	46.3	47.6	44.3	42.8
Payroll—Total	$331,955	$574,275	$1,178,706	$1,663,635	$1,786,918	$1,819,689	$1,706,315	$1,717,643
Operating	266,685	470,418	873,199	1,272,709	1,341,552	1,487,625	1,424,333	1,444,243
Construction	44,869	53,832	108,974	149,100	156,730	140,615	127,362	123,149
Miscellaneous	20,401	50,025	196,533	241,826	288,636	191,449	154,620	150,251
Integrated								
Employees	a	55.4	53.2	65.7	43.3	41.5	40.9	40.4
Payroll—Total	a	$676,967	$1,061,520	$1,800,005	$1,355,107	$1,324,953	$1,312,852	$1,319,878
Operating	a	548,291	873,837	1,497,310	1,158,017	1,107,852	1,101,633	1,101,333
Construction	a	91,439	138,062	211,774	146,519	172,162	170,519	173,589
Miscellaneous	a	37,237	49,621	90,921	50,571	44,939	40,700	44,956
Combination								
Employees	a	52.4	52.2	49.7	53.1	53.5	51.4	49.0
Payroll—Total	a	$726,298	$1,098,991	$1,580,277	$1,750,798	$1,825,130	$1,858,999	$1,894,392
Operating	a	597,790	885,325	1,222,518	1,321,243	1,393,014	1,402,762	1,432,944
Construction	a	113,693	194,326	335,099	396,063	406,409	408,685	406,320
Miscellaneous	a	14,815	19,340	22,660	33,492	25,707	47,552	55,128

a. Not available.
R-Revised.
Note: Data by company type not directly comparable from year to year due to acquisitions and mergers. See page ix.

TABLE 17-3
EMPLOYEE ACCIDENT INCIDENT AND SEVERITY RATES OF SELECTED INDUSTRIES, 1987[a]

	Rate	
	Incident	Severity
Gas Utilities[b]	**2.58**	**17.44**
All Industries	**1.86**	**22.04**
Agricultural Chemicals	.70	24.29
Aircraft	1.42	16.90
Air Transportation	2.21	12.22
Bituminous Coal	2.52	35.71
Cement	2.40	31.67
Chemical	.62	22.58
Communications	.72	18.06
Construction	2.93	21.50
Electric, Electronic Equipment	1.12	20.54
Electric Service	1.07	22.43
Fabricated Metal Products	1.89	21.16
Food	3.10	21.29
Furniture and Fixtures	1.76	18.18
General Government	3.83	23.24
Iron and Steel Foundries	1.66	27.71
Leather	2.29	17.47
Lumber and Wood Products	4.18	23.44
Machinery, excluding Electrical	1.74	19.54
Meat Products	4.18	20.10
Metal Mining	1.96	34.69
Motor Vehicles	2.90	26.55
Nonferrous Rolling, Drawing	1.32	22.73
Nonmetallic Minerals	1.25	36.80
Oil and Gas Extraction	.63	23.81
Paper	2.20	26.36
Petroleum and Coal Products	1.27	23.62
Pipeline Transportation	1.14	18.42
Primary Nonferrous Metals	1.92	26.56
Printing and Publishing	2.21	17.19
Railroad Equipment	4.74	25.32
Railroad Transportation	3.56	31.74
Rubber and Plastics	1.77	23.16
Services	2.03	13.79
Ship and Boat Building	4.20	18.09
Stone, Clay and Glass	2.54	30.71
Textile	.48	29.17
Transit	8.93	16.24
Trucking	17.55	14.02
Water Transportation	3.47	26.22
Wholesale and Retail Trade	1.85	20.54

a. Incident rate is the number of disabling injuries per 100 full-time employees. Severity rate is average lost workdays per injury.

b. Gas figures derived from National Safety Council data.

Source: National Safety Council, *Accident Facts*, 1988.

TABLE 17-4
DEATH RATES OF WORKERS, BY MAJOR INDUSTRIES, 1987

	Deaths	
	Total	Per 100,000 Workers
All Industries	**11,100**	**10**
Agriculture	1,600	49
Construction	2,200	35
Government	1,300	8
Manufacturing	1,100	6
Mining, Quarrying, Oil and Gas Wells	300	38
Service	1,800	5
Trade	1,300	5
Transportation and Public Utilities	1,500	28
Gas[a]	6	3.01

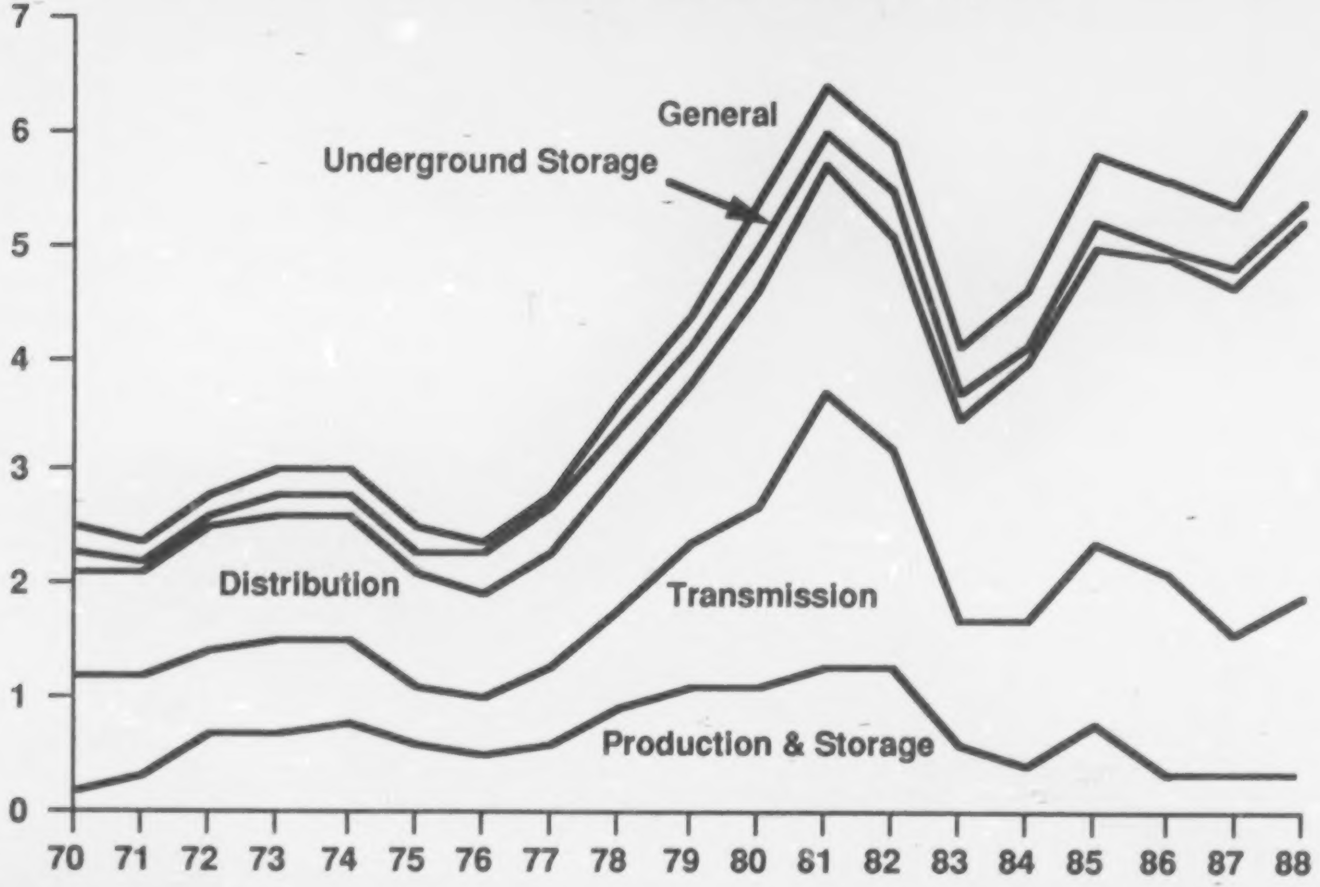
a. Included in Transportation and Public Utilities. Data derived from A.G.A. *Report of Occupational Injuries and Illnesses in the Gas Utility and Transmission Industry in the United States*, and does not represent total industry.

Source: National Safety Council; *Accident Facts*, 1988: gas figures derived from A.G.A. data.

CHART 16-1

GAS UTILITY INDUSTRY CONSTRUCTION EXPENDITURES

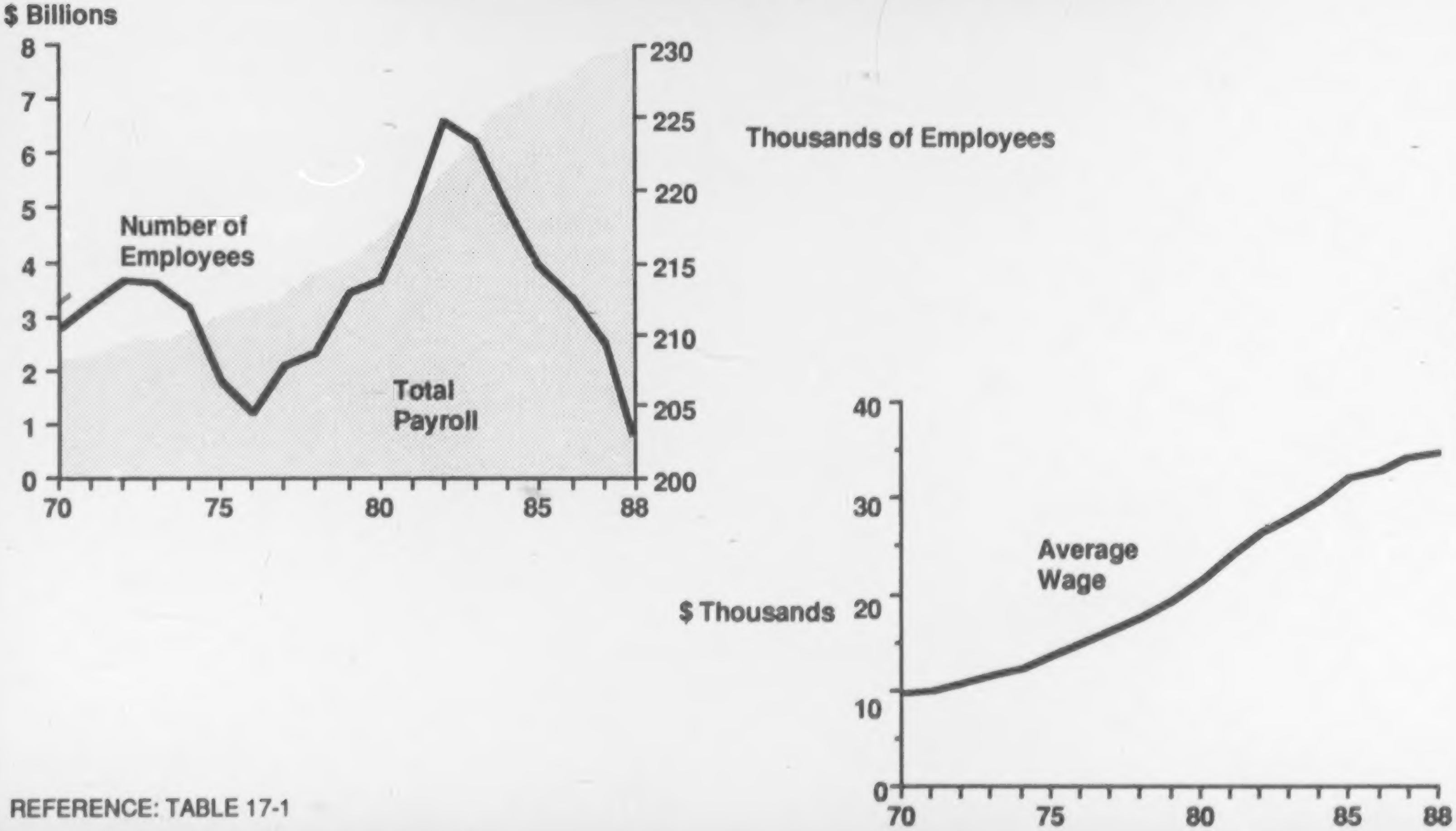
(BILLIONS OF DOLLARS)



REFERENCE: TABLE 16-1

CHART 17-1

GAS UTILITY INDUSTRY PAYROLL, EMPLOYEES AND AVERAGE WAGE



REFERENCE: TABLE 17-1

TABLE 17-5
EMPLOYEE DISABLING INJURY RATES, BY TYPE OF GAS UTILITY, 1970-1988

Z16.1 DATA

	All Reporting Gas Utilities				Natural Gas Distribution and Integrated Companies		Natural Gas Transmission Companies		Natural Gas Combination Companies[a]	
	Reporting Companies		Rate[b]		Rate		Rate		Rate	
Year	Number	Average Employees	Frequency[c]	Severity[d]	Frequency[c]	Severity[d]	Frequency[c]	Severity[d]	Frequency[c]	Severity[d]
1970	719	200,493	6.34	548	6.66	522	5.02	686	e	e
1971	833	210,589	7.15	473	7.48	444	5.70	634	e	e
1972	736	205,371	8.38	535	8.98	495	5.88	762	e	e
1973	708	207,423	8.18	547	8.77[f]	373[f]	5.67	1,287	e	e
1974	644	208,283	9.08	357	9.75[g]	362[g]	6.12	333	e	e
1975	515	193,957	9.27	570	9.99[g]	518[g]	6.37	785	e	e
1976	407	153,538	11.17	365	12.87[g]	403[g]	5.31	236	e	e

OSHA DATA

	All Reporting Gas Utilities				Natural Gas Distribution and Integrated Companies		Natural Gas Transmission Companies		Natural Gas Combination Companies	
	Reporting Companies		Rate		Rate		Rate		Rate	
Year	Number	Average Employees	Incident[h]	Severity[i]	Incident[h]	Severity[i]	Incident[h]	Severity[i]	Incident[h]	Severity[i]
1977	433	243,773	2.46	18.01	3.31	15.86	1.09	20.63	2.00	20.54
1978	423	236,661	2.46	17.11	3.41	14.86	1.10	22.51	2.10	18.90
1979	443	256,797	2.52	16.76	3.57	15.01	1.16	24.71	1.97	17.81
1980	453	262,173	2.62	18.20	3.45	14.28	1.15	32.17	2.26	21.34
1981	437	278,402	2.52	25.09	3.43	17.08	1.09	26.34	2.17	37.53
1982	424	275,725	2.33	18.36	3.39	13.63	1.15	23.10	1.90	24.30
1983	431	272,236	2.33	18.02	3.44	13.91	1.09	20.55	1.82	24.66
1984	415	254,765	2.52	16.01	3.67	13.20	1.02	19.60	1.91	21.11
1985	439	229,658	2.36	17.12	3.64	14.28	1.07	47.02	1.13	15.14
1986	419	224,696	2.37	17.68	3.49	16.06	.95	38.21	1.58	15.56
1987	331	187,997	2.30	18.84	3.08	16.86	1.17	39.91	1.59	16.95
1988	345	198,868	2.07	17.62	3.02	16.84	.86	23.45	1.21	18.64

a. Included in "Natural Gas Distribution" and "Integrated Companies" under Z16.1 data.
b. Includes "Manufactured and Mixed Gas" and "Liquefied Petroleum Gas."
c. Frequency Rate is number of disabling injuries per million man-hours worked for each injury resulting in a minimum of one day's loss of time.
d. Severity Rate is number of days lost due to disabling injuries, per million man-hours worked.
e. Not available under Z16.1 data.
f. Includes "Manufactured and Mixed Gas."
g. Includes "Manufactured and Mixed Gas" and "Liquefied Petroleum Gas."
h. Incident Rate is total injuries per 100 full-time employees.
i. Severity Rate is average lost workdays per injury.

Source: A.G.A. *Disabling Injury Experience*, 1988.

Note: Companies are now required to report under the Occupational Safety and Health Act (OSHA) instead of ANST Standard Z16.1.

APPENDIX A
GLOSSARY

(This is an abbreviated list of gas utility industry definitions. A complete list is contained in the *Glossary for the Gas Industry*).

Accident Frequency Rate: See Injury Frequency Rate, Disabling.

Accident Incident Rate: See Injury Incident Rate.

Accident Severity Rate: See Injury Severity Rate, Disabling.

Additions (To Utility Plant):

Gross Additions: Cost of construction, generally including overhead and allowance for funds used during construction (interest during construction), cost of land, land rights, and mineral interests, gas capitalized in underground storage, used facilities acquired, and the purchase cost of an acquired operating unit or systems of utility plant. See Construction Expenditures.

Net Additions: Gross additions less retirements and adjustments of utility plant. It is the net change in utility plant between two dates.

Anthracite: A hard coal containing little volatile matter, low ash and generally having a heating value of 11,000–12,000 Btu/lb.

Associated Natural Gas: See Gas, Natural.

Associated Number of Customers: See Customers, Average Number of.

Average Revenue Per Unit of Gas Sales (By Class of Service): Revenue from the sale of gas to a class of service, exclusive of forfeited discounts and penalties, divided by the corresponding number of units sold. Units may be therms, Btu's, or cubic feet.

Barrel (Oil): A volumetric unit of measurement equivalent to 42 U.S. standard gallons.

Bcf: 1,000,000,000 cubic feet; Billion cubic feet.

Bituminous Coal: Ranking of soft coal generally having a heating value of 11,000–13,000 Btu/lb., high in volatile matter and ash.

Blue Gas: See Water Gas.

Boiler Fuel Gas: Natural gas used as a fuel for the generation of steam (or hot water).

Bottled Gas: In the industry, liquefied petroleum gas contained under moderate pressure in cylinders, sometimes referred to as bottles. Usually propane and/or butane.

Capacity, Effective: The maximum load which a machine, apparatus, device, plant or system is capable of carrying under existing service conditions.

Carbon Black: Almost pure amorphous carbon consisting of extremely fine particles, usually produced from gaseous or liquid hydrocarbons by controlled combustion with a restricted air supply or by thermal decomposition.

Casinghead Gas: Unprocessed natural gas containing gasoline vapors produced from a reservoir containing oil.

City Gate (Town Border Station): See Gate Station.

Class of Service: Defines the type of customer. The common classes of service applied to ultimate consumers, and considerably more completely described in the A.G.A. publication "Definitions of a Gas Customer and Classes of Service for Industry Reporting Purposes" are:

1. **Residential Service**
   Covers service to customers for domestic purposes (single, multifamily or mobile homes, etc.). In residential service, the number of housing units within a structure determines the customer classification.
2. **Commercial Service**
   Covers service to customers engaged in wholesale or retail trade, agriculture, communications, finance, fisheries, forestry, government, insurance, real estate, transportation, etc., and to customers not directly involved in other classes of service.
3. **Industrial Service**
   Covers service to customers engaged primarily in a process which either involves the extraction of raw materials from the earth, or a change of raw or unfinished materials into another form or product.
4. **Other Services**
   Service to municipalities or divisions (agencies) of State or Federal Governments under special contracts or agreements or service classifications, which are applicable only to public authorities using gas for general or institutional purposes. (Exclude sales properly included under items 2 or 3 above, such as manufacturing arsenals or publicly-owned power systems).
5. **Sales for Resale** (Uniform System of Accounts, 483)
   Service to other utility companies, governmental agencies (municipal, county, state or federal), rural cooperatives, etc., for distribution and resale to ultimate customers. Service to other utilities for use by them and not for distribution and resale, is to be classified as residential, commercial, or industrial, depending upon the primary business or economic activity.

Coal Gas: Manufactured gas made by distillation or carbonization of coal in a closed coal gas retort, coke oven, or other vessel.

Combination Gas Utility: Utility which supplies both gas and some other utility service (electricity, water, etc.). For purposes of A.G.A. statistics, a combination utility derives at least 5 percent but less than 95 percent of its total sales revenues from gas operations. See Appendix C for a partial list of combination companies.

Commercial Service: See Class of Service.

Communities (Served): A community is a contiguous built-up area, incorporated or unincorporated, commonly recognized as a separate entity. Any incorporated area and its adjacent built-up unincorporated area may be counted as one community.

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British Thermal Unit (Btu): The quantity of heat that must be added to one pound of water to raise its temperature one degree Fahrenheit from 58.5 to 59.5 degrees Fahrenheit under standard pressure of 30 inches of mercury.

By-Products (Residuals): Secondary products which are obtained from the processing of a raw material and have commercial value. They may be the residues of the gas production process, such as coke, tar, and ammonia. or they may be the result of further processing of such residues, such as ammonium sulphate.

Compressor Horsepower: See Horsepower, Compressor.

Compressor Station: Any permanent combination of facilities which supplies the energy to move gas at increased pressure from fields, in transmission lines or into storage. For reporting to A.G.A. include field (other than temporary) line, and storage compressor stations of producing and transmission companies; distribution companies should include underground storage compressor stations and stations used for transporting gas between local distribution systems but not booster or pumping stations used within a local distribution system.

Condensate: The liquid resulting when a vapor is subjected to cooling and pressure reduction. Also, liquid hydrocarbons condensed from gas and oil wells. Compare Liquids, Natural Gas.

Construction Expenditures: Cost of construction, including overheads and allowance for funds used during construction, for additions to, renewals, and replacements of plant facilities, but excluding the purchase cost of an acquired operating unit or system of utility plant, accounting transfers and adjustments to utility plant, and cost to remove plant facilities from service.

Conversion to Natural Gas: Changing the gas service to ultimate customers from a fuel other than natural gas to natural gas, including adjustment of consumers' appliances to perform satisfactorily with natural gas. Natural gas does not necessarily mean straight natural gas; stabilizing the heat content of the sendout gas by diluent gases or enriching gases is not considered to change the basic character of natural gas. For the purpose of uniform reporting a company should be considered a natural gas company when 95 percent of the system has been converted.

Cubic Foot: The most common unit of measurement of gas volume. It is the amount of gas required to fill a volume of one cubic foot under stated conditions of temperature, pressure, and water vapor.

Current Gas: See Storage, Underground.

Cushion Gas: The gas required in a depleted reservoir, used for storage of natural gas, so that reservoir pressure is such that the storage gas may be recovered.

Customer: An individual, firm or organization which purchases service at one location under one rate classification, contract, or rate schedule. If service is supplied at more than one location or under more than one rate schedule, each location and rate schedule shall be counted as a separate customer unless the consumption of the several locations is combined before billing and billed on one rate schedule.

Customers, Average Number of: The average number of customers is determined by summing the customers for each of the periods involved and dividing by the number of periods. See Customer.

Customers, End of Year: The number of customers at December (or the last month of a fiscal year) including all billing cycles. See Customers, Average Number of.

Degree Day, Heating: A measure of the coldness of the weather experienced, based on the extent to which the daily mean temperature falls below a reference temperature, usually 65°F. For example, on a day when the mean outdoor dry-bulb temperature is 35°F., there would be 30 degree days experienced. A daily mean temperature usually represents the sum of the high and low readings divided by two.

Degree Day Normal: The simple arithmetic average of monthly or annual degree days (usually for a 30-year period). May be a simple degree day normal or population-weighted degree day normal.

Demand: The rate at which gas is delivered to or by a system, part of a system, or a piece of equipment, expressed in cubic feet or therms or multiples thereof, for a designated period of time called the demand interval. Compare Load.

Design Day: A 24-hour period of demand which is used as a basis for planning gas capacity requirements.

Design Day Availability: The amount of each type of gas arranged to be available on the design day and the maximum combination of such supplies. (In the case of purchased natural gas, the maximum day allocation, maximum day contract quantity, or FERC authorization).

Design Day Temperature: The mean temperature assumed for the Design Day.

Dissolved Natural Gas: See Gas, Natural.

Distribution Company, Gas: Company which obtains the major portion of its gas operating revenues from the operation of a retail gas distribution system, and which operates no transmission system other than incidental connections within its own system or to the system of another company. For purposes of A.G.A. statistics, a distribution company obtains at least 90 percent of its gas operating revenues from sales to ultimate customers *and* classifies at least 90 percent of mains (other than service pipe) as distribution. Compare Integrated Company, Gas; Transmission Company, Gas. See Appendix C for a partial list of Distribution Companies.

Distribution Mains: See System Type.

Distribution System, Gas: See System Type.

Dry Natural Gas: See Gas, Natural.

Enriching: Increasing the heat content of a gas by mixing with it a gas of higher Btu content.

Exchange Gas: Gas that is received from (or delivered to) another party in exchange for gas delivered to (or received from) such other party.

Extraneous Gas: See Storage, Underground.

Field Pipeline: See System Type.

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Firm Service: Service offered to customers (regardless of Class of Services) under schedules or contracts which anticipate no interruptions. The period of service may be for only a specified part of the year as in Off-Peak Service. Certain firm service contracts may contain clauses which permit unexpected interruption in case the supply to residential customers is threatened during an emergency. Compare Interruptible Service; and Off-Peak Service.

Foreign Gas: See Storage, Underground.

Gallon: A unit of liquid measure. The U.S. gallon contains 231 cubic inches or 8.3359 pounds avoirdupois of distilled water at its maximum density and with the barometer at 30 inches.

Gas, Dry: See Gas, Natural.

Gas, Liquefied Petroleum (LPG): A gas containing certain specific hydrocarbons which are gaseous under normal atmospheric conditions but can be liquefied under moderate pressure at normal temperatures. Propane and butane are the principal examples.

Gas, Manufactured: A gas obtained by destructive distillation of coal, or by the thermal decomposition of oil, or by the reaction of steam passing through a bed of heated coal or coke or catalyst beds. Examples are coal gases, coke oven gases, producer gas, blast furnace gas, blue (water) gas, and carbureted water gas. Btu content varies widely.

Gas, Natural: A naturally occurring mixture of hydrocarbon and nonhydrocarbon gases found in porous geologic formations beneath the earth's surface, often in association with petroleum. The principal constituent is methane.

Associated: Free natural gas in immediate contact, but not in solution with crude oil in the reservoir.

Dissolved: Natural gas in solution in crude oil in the reservoir.

Dry: Gas whose water content has been reduced by a dehydration process. Gas containing little or no hydrocarbons commercially recoverable as liquid product. Specified small quantities of liquids are permitted by varying statutory definition in certain states.

Liquefied (LNG): Natural gas which has been liquefied by reducing its temperature to minus 260°F at atmospheric pressure. It remains a liquid at −116°F and 673 psig. In volume it occupies 1/600 of that of the vapor.

Liquids: Those liquid hydrocarbon mixtures which are gaseous at reservoir temperatures and pressures but are recoverable by condensation or absorption. Natural gasoline and liquefied petroleum gases fall in this category.

Non-Associated: Free natural gas not in contact with, nor dissolved in, crude oil in the reservoir.

Sour: Gas found in its natural state, containing such amount of compounds of sulphur as to make it impractical to use, without purifying, because of its corrosive effect on piping and equipment.

Substitute: A gas manufactured from carbonaceous material whose characteristics are substantially interchangeable with natural gas. The resultant gas is composed primarily of methane. At this writing, SNG feedstocks are the light hydrocarbons, propane, butane and the naphthas. Development is underway of processes for production from heavier feedstocks, coal, peat and solid wastes.

Sweet: Gas found in its natural state, containing such small amount of compounds of sulphur that it can be used without purifying, with no deleterious effect on piping and equipment.

Wet: Wet natural gas is unprocessed natural gas or partially processed natural gas produced from strata containing condensable hydrocarbons. The term is subject to varying legal definitions as specified by certain state statutes.

Gas, Oil: A gas resulting from the thermal decomposition of petroleum oils, composed mainly of volatile hydrocarbons and hydrogen. The true heating value of oil gas may vary between 800 and 1600 Btu per cubic foot depending on the operating conditions and feedstock properties.

Gas, Substitute Natural (SNG): See Gas, Natural.

Gas Transported for Others: That volume of gas owned by another company received into and transported through any part of the transmission system under a transportation tariff.

Gate Station: Generally, a location at which gas changes ownership, from one party to another, neither of which is the ultimate consumer. It should be noted, however, that the gas may change from one system to another at this point without changing ownership. Also referred to as city gate station, town border station, or delivery point.

Gathering Pipeline: See System Type.

Heating Value: The amount of heat produced by the complete combustion of a unit quantity of fuel. The gross or higher heating value is that which is obtained when all of the products of combustion are cooled to the temperature existing before combustion, the water vapor formed during combustion is condensed, and all the necessary corrections have been made. The net or lower heating value is obtained by subtracting the latent heat of vaporization of the water vapor formed by the combustion of the hydrogen in the fuel, from the gross or higher heating value.

Holder, Gas: A gas-tight receptacle or container in which gas is stored for future use. (1) at approximately constant pressure (low pressure containers) in which case the volume of the container changes; and (2) in containers of constant volume (usually high pressure containers) in which case the quantity of gas stored varies with the pressure.

Holding Company: A gas holding company is a corporation that is formed for the purpose of owning stock in other gas companies.

Horsepower, Compressor: The horsepower rating on the nameplate.

Horsepower, (HP): A unit of power; equivalent to 33,000 foot-pounds per minute, or 550 foot-pounds per second (mechanical horsepower), or 0.746 kilowatts.

Hydrocarbon: A chemical compound composed solely of hydrogen and carbon. The compounds having a small number of carbon and hydrogen atoms in their molecule are usually gaseous; those with a larger number of atoms are liquid, and the compounds with the largest number of atoms are solid.

Industrial Service: See Class of Service.

Injury Frequency Rate, Disabling: Number of disabling injuries per million man-hours worked. Such injuries include disabilities and fatalities arising out of and occurring during the course of employment. A disabling injury is one which renders the employee unable to return to work on one or more days after the injury.

Injury Incident Rate: Number of injuries per 100 full-time employees.

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Injury Severity Rate, Disabling: Number of days lost due to disabling per million manhours worked, including appropriate time charges according to a predetermined schedule for permanent disability cases and/or fatalities. Subsequent to 1976, severity rate is average lost workdays per injury.

Integrated Company, Gas: A company which obtains a significant portion of its gas operating revenues from the operations of both a retail gas distribution system and gas transmission system. For purposes of A.G.A. statistics, an integrated company obtains less than 90 percent but more than 10 percent of its gas operating revenues from either its retail or transmission operations or does not meet the classification of mains established for distribution or transmission companies. Compare Distribution Company, Gas; Transmission Company, Gas. See Appendix C for a partial list of Integrated Companies.

Interruptible Service: Low priority service offered to customers under schedules or contracts which anticipate and permit interruption on short notice, generally in peak-load seasons, by reason of the claim of firm service customers and higher priority users. Unlike Off-Peak Service, gas is available at any time of the year if the supply is sufficient.

Line Pack, Gas Delivered from: That volume of gas delivered to the markets supplied by the net change in pressure in the regular system of mains, transmission and/or distribution. For example, the change in the content of a pipeline brought about by the deviation from steady flow condition.

Liquefied Natural Gas (LNG): See Gas, Natural.

Liquefied Petroleum Gas (LPG): See Gas, Liquefied Petroleum.

Load: The amount of gas delivered or required at any specified point or points on a system; load originates primarily at the gas consuming equipment of the customers. Also, to load a pressure regulator is to set the regulator to maintain a given pressure as the rate of gas flow through the regulator varies. Compare Demand.

Local Storage: See Storage, Local.

Mcf: 1,000 cubic feet; Thousand cubic feet.

MMBtu: 1,000,000 Btu; Million Btu.

MMcf: 1,000,000 cubic feet; Million cubic feet.

Main: A distribution line that serves as a common source of supply for more than one gas service line.

Distribution Mains: See System Type.
Field and Gathering Pipeline: See System Type.
Transmission Pipeline: See System Type.

Manufactured Gas: See Gas, Manufactured.

Marketable Natural Gas: Raw gas from which certain hydrocarbons and non-hydrocarbon compounds have been removed by processing. Marketable natural gas is often referred to as pipeline gas, residue gas, or sales gas.

Maximum Day:
Allocation: See Design Day Availability.

Sendout: See Sendout, Maximum Day.

Minimum Day: See Sendout, Minimum Day.

Naphtha: Any of various volatile, often flammable liquid hydrocarbon mixtures used chiefly as solvents and diluents and as raw materials for conversion to gasoline and substitute natural gas (SNG).

Native Base Gas: See Storage, Underground.

Natural Gas: See Gas, Natural.

Natural Gas, Associated: See Gas, Natural.

Natural Gas, Dissolved: See Gas, Natural.

Natural Gas, Dry: See Gas, Natural.

Natural Gas, Liquefied: See Gas, Natural.

Natural Gas Liquids: See Gas, Natural.

Natural Gas, Non-Associated: See Gas, Natural.

Natural Gas Reserves: See Reserves.

Natural Gas, Sour: See Gas, Natural.

Natural Gas, Sweet: See Gas, Natural.

Natural Gas, Wet: See Gas, Natural.

Natural Gasoline: Liquid removed from natural gas by absorption or refrigeration and containing hydrocarbons heavier than butane.

Off-Peak Service: Service made available on special schedules or contracts but only for a specified part of the year during the off-peak season. Compare Interruptible Service.

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Oil Gas: See Gas, Oil.

Oil, Heavy: Heavy, thick and viscous oils. Usually refinery residuals commonly specified as grades 5 and 6.

Oil, Light: Generally, all oils lighter than residual fuel oils No. 5 and No. 6. Oils that have a low specific gravity, usually products of controlled distillation of crude oil but also including by-product benzol and toluol.

Peak Day: The 24-hour day period of greatest total gas sendout. Compare Design Day.

Peak Shaving: Supplying fuel gas for distribution system from an auxiliary source (of limited supply and higher cost) during periods of maximum demand when the primary source is not adequate.

Pipeline: All parts of those physical facilities through which gas is moved in transportation, including pipe, valves and other appurtenance attached to pipe, compressor units, metering stations, regulator stations, delivery stations, holders and fabricated assemblies. See System Type.

Pressure, Absolute: Pressure above that of a perfect vacuum. It is the sum of gauge pressure and atmospheric pressure.

Pressure, Gauge (psig): Pounds per square inch above atmospheric pressure.

Producer Gas (Also, Manufactured Gas): A combustible gas made in a furnace or apparatus by circulating air or a mixture of air and steam through a layer of incandescent material consisting chiefly of carbon monoxide, hydrogen and nitrogen.

Propane (C_3H_8): A gaseous member of the paraffin series of hydrocarbons, which when liquified under pressure is one of the components of liquefied petroleum (LP) gas. Contains approximately 2,500 Btu per cubic foot (at 60°F and 30" mercury, and 91,740 Btu per gallon).

Recoverable Natural Gas Reserves: See Reserves, Recoverable Natural Gas.

Refinery Gas: See Gas, Oil.

Reforming: A chemical process using heat in presence of a catalyst to break down a substance into desired components, such as in the reforming of natural gas or light oils into lower Btu fuel gas.

Repressuring: Forcing gas, under pressure, into the oil reservoir in an attempt to increase the recovery of crude oil; also done with water.

Resale Service: See Class of Service, Sales for Resale.

Reserves, Energy: Refers to the bank of natural resources, such as natural gas, natural gas liquids, petroleum, coal, lignite, and energy available from water power, and solar and geothermal energy.

Estimated Potential Natural Gas Reserves: Refers to an estimate of the ultimate finding of natural gas in a specified area, whether or not presently considered proved or recoverable.

Estimated Proved Natural Gas Reserves: An estimated quantity of natural gas which analysis of geologic and engineering data demonstrates with reasonable certainty to be recoverable in the future from known oil and gas reservoirs, under existing economic and operating conditions. Reservoirs that have demonstrated the ability to produce by either actual production or conclusive formation test are considered proved.

Saturation, Appliance or Customer: The number of specified appliances, or users, divided by the basic units or total potential of the universe involved, i.e., Gas Heating Saturation related to customers is the total number of customers with space heating divided by the total number of customers. Saturation should not be used alone but should be associated with customers, families, households, population or other qualifying terms indicating the universe referred to. For industry statistics, saturation based on customers served is used.

Sendout, Gas: Total gas produced, purchased (including exchange gas receipts), or net withdrawn from underground storage within a specified time interval, measured at the point(s) of production and/or purchase, and/or withdrawal, adjusted for changes in local storage quantity. It comprises gas sales, exchange deliveries, gas used by company and unaccounted for gas. Expressed in various units such as therms, Btu's, cubic feet, etc.

Sendout, Maximum Day: The greatest actual total gas sendout occurring in a specified 24-hour period. Compare Design Day; Peak Day.

Sendout, Minimum Day: The smallest actual total gas sendout occurring in a specified 24-hour period.

Service (Service Line, Service Pipe): The pipe which carries gas from the main to the customer's meter. Compare Class of Service.

Shrinkage, Natural Gas: The reduction is volume of wet natural gas due to the extraction of some of its constituents, such as hydrocarbon products, hydrogen sulfide, carbon dioxide, nitrogen, helium, and water vapor.

Storage, Buried Pipe (Bottle-Type Holder): A system of storage in especially designed high pressure pipe sections or bottles capable of storing natural gas at pressures near or equal to the pressure of maximum super-compressibility. Not storage in ordinary steel pipe.

Storage, Local: The storage facilities, other than underground storage, that are an integral part of a distribution system, i.e., on the distribution side of the city gate, whether for manufactured, mixed, natural, liquefied petroleum, or liquefied natural gases.

Storage Mains: Those mains used primarily for injection and withdrawal of gas to and from underground storage.

Storage, Underground: The utilization of subsurface facilities for storing gas which has been transferred from its original location for the primary purposes of load balancing. The facilities are usually natural geological reservoirs such as depleted oil or gas fields or waterbearing sands sealed on the top by an impermeable cap rock. The facilities also may be manmade or natural caverns.

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Aquifer Storage: The storage of gas underground in porous and permeable rock stratum, the pore space of which was originally filled with water and in which the stored gas is confined by suitable structure, permeability barriers and hydrostatic water pressure.

Base Gas (Also called cushion gas): The total volume of gas which will maintain the required rate of delivery during an output cycle.

Current Gas: The total volume of gas in a storage reservoir which is in excess of the base gas. Also called Working Gas.

Extraneous Gas: See Stored Gas, this section.

Foreign Gas: See Stored Gas, this section.

Native Gas: The total volume of gas indigenous to the storage reservoir.

Storage Reservoir: That part of the storage zone having a defined limit of porosity and/or permeability which can effectively accept, retain, and deliver gas.

Storage Well: A cased bore hole, extending from the surface into the storage zone, which is used primarily for gas input and/or output purposes.

Stored Gas: Gas physically injected into a storage reservoir.

Ultimate Reservoir Capacity: The total estimated volume of gas that could be contained in storage reservoir when it is developed to the maximum design pressure.

Working Gas: Gas in an underground storage field that is available for market. May also be called Current Gas.

Straight Gas Utility: Company which derives the major portion of its total operating revenues from gas operations. For purposes of A.G.A. statistics, a straight gas utility derives at least 95 percent of its total operating revenues from gas operations. See Combination Gas Utility.

Subbituminous Coal: Ranking of soft coal generally having a heating value of 8,300–13,000 Btu's/lb-high volatile matter and ash.

Substitute Natural Gas: See Gas, Natural.

System Type:

Distribution: Generally mains, services, and equipment which carry or control the supply of gas from the point of local supply to and including the sales meters. The system operates at various pressures as indicated below.

High Pressure: A system which operates at a pressure higher than the standard service pressure delivered to the customer; thus, a pressure regulator is required on each service to control pressure delivered to the customer. Sometimes this is referred to as medium pressure.

Low Pressure or Utilization Pressure: A system in which the gas pressure in the mains and service lines is substantially the same as that delivered to the customers' appliances; ordinarily a pressure regulator is not required on individual service lines.

Field and Gathering: A network of pipelines (mains) transporting natural gas from individual wells to compressor station, processing point, or main trunk pipeline.

Main: The network of distribution piping to which customers' service lines are attached. Generally large pipes are laid in principal streets with smaller laterals extending along side streets and connected at their ends to form a grid; sometimes laterals are brought to dead ends. Compare with Distribution, this section.

Transmission: Pipelines (Mains) installed for the purpose of transmitting gas from a source or sources of supply to one or more distribution centers, or to one or more large volume customers, or a pipeline installed to interconnect sources of supply. In typical cases transmission lines differ from gas mains in that they operate at higher pressures, are longer, and the distance between connections is greater.

Tcf: 1,000,000,000,000 cubic feet; Trillion cubic feet.

Therm: A unit of heating value equivalent to 100,000 British thermal units (Btu).

Transmission Company, Gas: A company which obtains at least 90 percent of its gas operating revenues from sales for resale and/or transportation of gas for others and/or main line sales to industrial customers *and* classifies at least 90 percent of mains (other than service pipe) as field and gathering, storage and/or transmission. Compare Distribution Company, Gas; Integrated Company, Gas. See Appendix C for a partial list of Transmission companies.

Transmission Pipeline: See System Type.

Transmission System: See System Type.

Transportation Volumes to End-Users: Volumes of gas owned by the ultimate consumer (end-user) and delivered to the ultimate consumer's meter by the transporter.

Ultimate Customer: The customer who purchases gas for consumption and not for resale purposes.

Ultimate Reservoir Capacity: See Storage, Underground.

Unaccounted for Gas: The difference between the total gas available from all sources and the total gas accounted for as sales, net interchange and company use. This difference includes leakage or other actual losses, discrepancies due to meter inaccuracies, variations of temperature and/or pressure, other variants, particularly due to measurements being made at different times. In cycle billings, an amount of gas supply used but not billed as of the end of a period. Compare Sendout, Gas.

Underground Storage: See Storage, Underground.

Water Gas (Blue Gas): Made by passing steam over hot coke or other carbonaceous material; it consists of carbon monoxide and hydrogen with varying amounts of carbon dioxide and nitrogen. It burns with a blue flame.

Well, Wildcat: An exploratory well being drilled in unproven territory, that is, in a horizon from which there is no production in the general area.

Wet Natural Gas: See Gas, Natural.

Working Gas: See Storage, Underground.

APPENDIX B
CONVERSION TABLE

The following are some frequently used units of measure and natural gas equivalents in British thermal units (Btu). Read "=" as "contains" between volumes and energy units.

The national average Btu content per cubic foot is used. For state averages, see page 76.

1 Cubic Foot (cf) = 0.02832 Cubic Meters = 1,026.8 Btu
1 Therm = 100,000 Btu ≅ 25,200 Kilocalories ≅ 100 Cubic Feet
1 Mcf = 1,000 Cubic Feet = 28.32 Cubic Meters = 1,026,800 Btu
1 M Therm = 100,000,000 Btu ≅ 25,200,000 Kilocalories
1 MMcf = 1,000,000 Cubic Feet = 1,026,800,000 Btu

Conversion examples:
(1) To convert 2,325 MMcf to trillions of Btu:
(2,325 MMcf) (1,026,800,000 Btu/MMcf)
= 2,387,310,000,000 Btu
≅ 2.3873 trillion Btu
(2) To convert 5,000 trillion Btu to millions of cubic feet:
(5,000 trillion Btu) (1 cf/1,026.8 Btu)
≅ 4.869 trillion cf (Tcf)
≅ 4,869,497 MMcf
(2) To convert 22,150 million therms to trillions of Btu:
(22,150 million therms) (100,000 Btu/therm)
= 2,215,000,000 million Btu
= 2,215 trillion Btu
(4) To convert the Btu content of 1 cubic foot at 15.05 psia to 14.73 psia:
(1,049 Btu/cf) (14.73 psia/15.05 psia)
≅ 1,026.7 Btu/cf

For comparative purposes, Btu contents of various energy sources other than natural gas are shown below.[*]

Fuel Oil (barrel)	
Distillate	5,825,000 Btu
Residual	6,287,000 Btu
Coal (short ton)	
Bituminous and lignite	21,337,000 Btu
Anthracite	22,473,000 Btu
Electricity (kilowatt-hour)	3,412 Btu
Natural gas liquids (barrel)	3,812,000 Btu

[*] Department of Energy, Energy Information Administration, *Monthly Energy Review*, April 1989.

APPENDIX C
COMPANY LISTINGS

Shown below are 100 selected companies, 25 for each company type, as used in the financial and other sections of this publication. These lists are *not* meant to be *comprehensive.* Inclusion on this list does not imply individual company data may be released.

Distribution

Alabama Gas Corporation
Berkshire Gas Company, The
Boston Gas Company
Brooklyn Union Gas Company, The
Chattanooga Gas Company
Columbia Gas of Kentucky, Inc.
Columbia Gas of Ohio, Inc.
Columbia Gas of Pennsylvania, Inc.
Commonwealth Gas Company
Elizabethtown Gas Company
Great Falls Gas Company
Michigan Gas Utilities Company
Minnegasco, Inc.
Mississippi Valley Gas Company
New Jersey Natural Gas Company
North Shore Gas Company
Northwest Natural Gas Company
Peoples Gas System, Inc.
Providence Gas Company
Richmond Gas Corporation
Southern Connecticut Gas Company, The
Washington Gas Light Company
Washington Natural Gas Company
Wisconsin Gas Company
Wisconsin Natural Gas Company

Transmission

Alabama Tennessee Natural Gas Co.
Algonquin Gas Transmission Company
ANR Pipeline Company
Colorado Interstate Gas Company
Columbia Gas Transmission Corporation
Columbia Gulf Transmission Company
East Tennessee Natural Gas Company
El Paso Natural Gas Company
Enron Corporation
Great Lakes Transmission Company
Midwestern Gas Transmission Company
Natural Gas Pipeline Co. of America
Northwest Pipeline Corporation
Pacific Gas Transmission Company
Panhandle Eastern Pipe Line Company
Southern Natural Gas Company
Texas Eastern Transmission Corporation
Texas Gas Transmission Corporation
Transcontinental Gas Pipe Line Corp.
Transok Pipe Line Company
Transwestern Pipeline Company
Trunkline Gas Company
United Gas Pipeline Company
Valero Transmission Company
Western Gas Supply Company

Integrated

Arkansas Louisiana Gas Company
Arkansas Oklahoma Gas Corporation
Arkansas Western Gas Company
Battle Creek Gas Company
Corning Natural Gas Company
East Ohio Gas Company, The
Enserch Corporation
Enstar Natural Gas Company
Great Plains Natural Gas Company
Intermountain Gas Company
KN Energy, Inc.
Michigan Consolidated Gas Company
National Fuel Gas Company
National Gas & Oil Corporation
North Carolina Natural Gas Corporation
North Penn Gas Company
Ohio Valley Gas Corporation
Oklahoma Natural Gas Company
Peoples Natural Gas Co., The
Public Service Company of North Carolina, Inc.
Southern California Gas Company
Terre Haute Gas Corporation
Union Gas System, Inc.
Vermont Gas Systems, Inc.
Western Kentucky Gas Company

Combination

Baltimore Gas and Electric Company
Central Illinois Light Company
Cincinnati Gas and Electric Company
Consolidated Edison Co. of NY Inc.
Consumers Power Company
Dayton Power & Light Company
Florida Public Utilities Company
Illinois Power Company
Iowa Electric Light & Power Company
Iowa-Illinois Gas & Electric Company
KPL Gas Service
Long Island Lighting Company
Louisville Gas & Electric Company
Madison Gas & Electric Company
Montana-Dakota Utilities Company
Montana Power Company
Niagara-Mohawk Power Corporation
Northern Indiana Public Service Company
Pacific Gas & Electric Company
Philadelphia Electric Company
Public Service Co. of Colorado
Public Service Electric & Gas Company
San Diego Gas & Electric Company
Washington Water Power Company
Wisconsin Public Service Corporation

APPENDIX D
GAS REQUIREMENTS COMMITTEE, NATURAL GAS CONSUMPTION

The Gas Requirements Committee (GRC) is a subcommittee of the Gas Demand Committee, a board-level committee of the American Gas Association. The GRC has been publishing reports on gas consumption since 1964, and is considered one of the three major sources of comprehensive data on natural gas consumption. The Energy Information Agency (EIA) within the U.S. Department of Energy and the American Gas Association are the other two. The Statistics and Related Economics Committee of the A.G.A. has decided to include the GRC data on natural gas consumption in this edition as part of the effort to continually improve the usefulness of the data provided in *Gas Facts.*

Comparison of consumption figures published by the three above-mentioned sources for any given year would result in some discrepancies. Certainly one reasonable explanation is that the three groups use different methods in the collection and compilation of natural gas consumption data. The major differences are caused by varying definitions, sample sizes, and points of measurement.

The GRC measure of consumption is defined as adding together the end-use consumption of all gas users including company use, unaccounted for gas and field use on a national basis only. The EIA measure of consumption is defined as the sum of deliveries to consumers, lease and plant fuel, and pipeline fuel. The A.G.A. measure of consumption is restricted to sales to consumers that are made by gas utility companies *only* and, therefore, is a subset of total United States gas consumption.

It is not the intention of the Statistics and Related Economics Committee to reconcile the differences among the reported consumption data. Rather, the reader should be aware that three sources of data exist. If the reader wishes to further analyze the GRC or EIA consumption data, it is reported in the GRC *Future Gas Consumption in the United States* reports or the EIA *Natural Gas Annual* reports.

The subsequent pages excerpt the following information from GRC publications: United States gas consumption by state, region and class of service—1987, total commercial and industrial consumption by standard industrial classification—1987, and United States gas consumption by class of service, 1976–1987.

1987
UNITED STATES GAS CONSUMPTION BY STATE, REGION & CLASS OF SERVICE

(Millions of Cubic Feet)[a]

		Firm			
	Region and State	Residential	Commercial	Industrial	Electric Utilities
(1)	**United States Total**				
(2)	**Field Use**				
(3)	**Total Excluding Field Use**	**4,407,617**	**2,193,420**	**3,204,744**	**1,334,910**
(4)	**1. New England**	**161,479**	**81,860**	**28,526**	**115**
(5)	Connecticut	36,940	17,364	8,194	0
(6)	Maine	528	1,250	762	0
(7)	Massachusetts	100,133	51,886	16,556	115
(8)	New Hampshire	5,477	4,632	583	0
(9)	Rhode Island	16,761	5,598	2,298	0
(10)	Vermont	1,640	1,130	133	0
(11)	**2. Appalachian**	**1,339,679**	**553,990**	**421,905**	**2,181**
(12)	Delaware	7,907	3,568	2,783	42
(13)	District of Columbia	17,376	6,240	315	0
(14)	Kentucky	59,992	29,677	21,333	255
(15)	Maryland	73,542	15,981	24,243	251
(16)	New Jersey	171,638	81,691	25,214	0
(17)	New York	333,172	137,730	62,110	1,075
(18)	Ohio	325,876	132,372	128,106	0
(19)	Pennsylvania	256,609	105,100	125,022	549
(20)	Virginia	56,199	25,408	19,340	0
(21)	West Virginia	37,368	16,223	13,439	9
(22)	**3. Southeast**	**288,362**	**176,790**	**139,584**	**29,542**
(23)	Alabama	58,627	23,284	38,053	512
(24)	Florida	15,420	28,631	12,214	27,838
(25)	Georgia	102,550	44,809	18,923	0
(26)	North Carolina	37,030	28,156	19,258	1,189
(27)	South Carolina	28,590	9,798	10,101	3
(28)	Tennessee	46,145	42,112	41,035	0
(29)	**4. Great Lakes**	**974,965**	**494,486**	**446,314**	**9,751**
(30)	Illinois	417,903	195,391	196,333	850
(31)	Indiana	139,424	62,699	64,430	1,090
(32)	Michigan	313,480	176,427	157,068	7,629
(33)	Wisconsin	104,158	59,969	28,483	182
(34)	**5. Northern Plains**	**208,502**	**125,858**	**89,608**	**549**
(35)	Iowa	63,789	41,480	70,551	382
(36)	Minnesota	89,114	45,502	11,183	65
(37)	Nebraska	38,196	26,989	3,715	102
(38)	North Dakota	8,065	6,278	2,899	0
(39)	South Dakota	9,338	5,609	1,260	0
(40)	**6. Mid-Continent**	**271,055**	**101,557**	**128,750**	**225,238**
(41)	Kansas	81,906	32,891	29,775	12,347
(42)	Missouri	120,830	32,243	20,949	0
(43)	Oklahoma	68,319	36,423	78,026	212,891
(44)	**7. Gulf Coast**	**352,230**	**221,201**	**1,715,710**	**1,003,220**
(45)	Arkansas	40,073	20,236	81,152	31,418
(46)	Louisiana	62,366	29,394	575,953	153,144
(47)	Mississippi	27,626	17,002	40,355	13,871
(48)	Texas	222,165	154,569	1,018,250	804,787
(49)	**8. Rocky Mountain**	**153,607**	**91,569**	**29,052**	**2,633**
(50)	Colorado	84,024	57,134	14,149	2,156
(51)	Montana	15,692	10,717	1,488	477
(52)	Utah	43,842	16,276	6,549	0
(53)	Wyoming	10,049	7,442	6,866	0
(54)	**9. Pacific Southwest**	**587,897**	**278,997**	**157,312**	**55,032**
(55)	Arizona	28,250	28,130	20,136	26,652
(56)	California	504,457	218,480	114,383	4,705
(57)	Nevada	23,706	12,686	6,222	6,935
(58)	New Mexico	31,484	19,701	16,571	16,740
(59)	**10. Pacific Northwest**	**56,967**	**44,553**	**46,263**	**3**
(60)	Idaho	7,286	5,794	20,520	0
(61)	Oregon	18,870	16,132	8,322	0
(62)	Washington	30,811	22,627	17,421	3
(63)	**11. Pacific**	**12,874**	**22,559**	**1,720**	**6,646**
(64)	Alaska	12,286	20,230	1,720	6,646
(65)	Hawaii	588	2,329	0	0

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a. Btu content equals 1,000 Btu per cubic foot.

APPENDIX D

1987 (Continued)
UNITED STATES GAS CONSUMPTION BY STATE, REGION & CLASS OF SERVICE

(Millions of Cubic Feet)[a]

Interruptible					
Commercial	Industrial	Electric Utilities	Other	Total Consumption	
				17,840,432	**(1)**
				972,000	**(2)**
357,314	**2,792,118**	**1,587,153**	**991,156**	**16,868,432**	**(3)**
16,848	**30,504**	**55,045**	**10,381**	**384,758**	**(4)**
9,317	11,402	7,378	2,385	92,980	(5)
0	90	0	117	2,747	(6)
5,161	14,909	42,221	6,032	237,013	(7)
0	881	15	356	11,944	(8)
1,802	1,658	5,336	1,271	34,724	(9)
568	1,564	95	220	5,350	(10)
89,296	**417,042**	**276,762**	**179,157**	**3,280,012**	**(11)**
151	3,169	5,364	479	23,463	(12)
7,480	172	0	1,196	32,779	(13)
1,619	30,437	45	19,345	162,703	(14)
8,122	38,354	12,011	9,506	182,010	(15)
11,458	55,577	75,425	14,737	435,740	(16)
22,389	25,591	179,377	27,513	788,957	(17)
11,445	127,190	387	29,883	755,259	(18)
12,920	88,653	1,711	27,736	618,300	(19)
12,538	22,409	2,277	12,918	151,089	(20)
1,174	25,490	165	35,844	129,712	(21)
33,608	**418,780**	**154,842**	**55,499**	**1,297,007**	**(22)**
2,941	78,970	94	12,465	214,946	(23)
7,051	63,998	153,309	4,444	312,905	(24)
12,074	131,645	830	15,052	325,883	(25)
1,076	55,502	2	6,615	148,828	(26)
4,684	37,827	607	3,414	95,024	(27)
5,782	50,838	0	13,509	199,421	(28)
18,567	**310,207**	**3,253**	**52,685**	**2,310,228**	**(29)**
2,514	68,006	798	22,410	904,205	(30)
993	141,401	0	10,287	420,324	(31)
1,487	33,168	620	16,680	706,559	(32)
13,573	67,632	1,835	3,308	279,140	(33)
45,837	**97,033**	**5,695**	**28,491**	**601,573**	**(34)**
4,178	22,580	1,719	10,961	215,640	(35)
29,375	52,674	2,626	10,183	240,722	(36)
7,381	18,140	1,270	5,236	101,029	(37)
2,464	1,627	12	1,689	23,034	(38)
2,439	2,012	68	422	21,148	(39)
49,404	**275,626**	**19,140**	**76,788**	**1,147,558**	**(40)**
18,041	149,923	10,718	49,699	385,300	(41)
27,783	30,919	2,419	6,465	241,608	(42)
3,580	94,784	6,003	20,624	520,650	(43)
4,362	**743,631**	**411,455**	**367,427**	**4,819,236**	**(44)**
4,061	12,186	0	12,044	201,170	(45)
240	258,932	93,079	64,565	1,237,673	(46)
0	39,188	30,455	31,262	199,759	(47)
61	433,325	287,921	259,556	3,180,634	(48)
20,115	**38,803**	**6,664**	**9,107**	**351,550**	**(49)**
13,426	11,537	6,649	5,727	194,802	(50)
122	6,866	15	668	36,045	(51)
5,839	13,617	0	581	86,704	(52)
728	6,783	0	2,131	33,999	(53)
67,940	**312,575**	**632,049**	**198,117**	**2,289,919**	**(54)**
95	816	0	22,106	126,185	(55)
67,359	309,688	632,049	145,604	1,996,725	(56)
477	5	0	1,663	51,694	(57)
9	2,066	0	28,744	115,315	(58)
11,013	**82,097**	**94**	**10,026**	**251,016**	**(59)**
0	472	0	335	34,407	(60)
592	29,343	0	890	74,149	(61)
10,421	52,282	94	8,801	142,460	(62)
324	**65,820**	**22,154**	**3,478**	**135,575**	**(63)**
0	65,820	22,154	3,376	132,232	(64)
324	0	0	102	3,343	(65)

1987
TOTAL COMMERCIAL AND INDUSTRIAL CONSUMPTION BY STANDARD INDUSTRIAL CLASSIFICATION

(Millions of Cubic Feet)[a]

Group	Description	Region[b]			
		1	2	3	4
01–09	Agriculture, Forestry & Fishing	223	3,240	288	14,568
10–14	Mining[c]	16	319	10	102
10–13	Mining[d]	1,413	961	3,500	3,653
15–17	Construction	696	3,388	187	2,497
20–39	Manufacturing[e]	3,584	34,360	1,998	14,991
20	Food & Kindred Products	3,153	50,819	29,157	71,156
21	Tobacco Manufacturers	98	2,293	2,189	48
22	Textile Mill Products	3,669	7,693	42,721	2,294
23	Apparel & Other Textile Products	196	2,202	7,049	491
24	Lumber & Wood Products	124	3,229	2,115	3,498
25	Furniture & Fixtures	194	1,804	914	3,906
26	Paper & Allied Products	2,768	41,305	69,689	44,640
27	Printing & Publishing	777	5,321	1,110	7,427
28	Chemicals & Allied Products	2,165	129,304	90,855	58,342
29	Petroleum & Coal Products	312	20,046	15,325	22,558
30	Rubber & Misc. Plastics Products	1,193	16,090	11,799	13,271
31	Leather & Leather Products	133	1,493	395	1,437
32	Stone, Clay, Glass & Concrete Products	4,010	87,148	70,221	36,990
331–332	Primary Iron & Steel	3,198	116,203	26,290	201,008
333–339	Primary Nonferrous Metals	555	86,178	14,604	33,735
34	Fabricated Metal Products	5,864	35,456	8,948	35,088
35	Machinery, except Electrical	5,147	17,682	3,755	28,981
36	Electric & Electronic Equipment	2,790	21,427	5,173	14,784
37	Transportation Equipment	1,118	26,633	7,241	54,234
38	Instruments & Related Products	1,376	4,122	659	1,767
39	Other Manufacturing	1,233	5,339	1,301	6,992
40–48	Transportation	2,112	14,418	1,950	7,269
49	Utility Services other Than Electric Generation	1,196	8,464	284	11,311
50–51	Wholesale Trade	3,116	15,578	2,510	12,234
52–57,59	Retail Trade	6,915	32,895	3,171	27,290
58	Restaurants and Drinking Places	7,969	29,509	14,348	19,912
60–64,66,67	Finance & Insurance	1,389	9,835	774	10,189
65	Real Estate (Apartments)	17,366	66,733	7,580	36,426
70	Hotels & Other Lodging Places	2,645	13,145	3,676	12,079
72–79	Services	5,203	38,454	5,374	43,455
80	Health Services, Hospitals	7,857	51,120	17,841	43,107
81,83,84	Legal & Social Services	674	5,537	1,006	5,495
82	Education (Schools)	7,535	50,483	14,773	64,060
86,88,89	Membership Organization & Misc. Services	2,190	27,561	2,507	16,240
91–97	Public Administration	3,101	36,493	11,212	19,889
99	Non-Classifiable	347	7,427	512	2,099
	Other Industrial[f]	3,706	9,595	1,666	16,400
	Not Classified by SIC or Unreported	38,412	340,931	262,085	243,661
	Total Commercial & Industrial	**157,738**	**1,482,233**	**768,762**	**1,269,574**

a. Btu content equals 1,000 Btu per cubic foot.
b. For region definition see previous table on page 208.
c. Commercial volumes classified as mining.
d. Industrial volumes classified as mining.
e. Commercial volumes classified as manufacturing.
f. Industrial volumes classified other than manufacturing or mining.

1987 (continued)
TOTAL COMMERCIAL AND INDUSTRIAL CONSUMPTION BY STANDARD INDUSTRIAL CLASSIFICATION

(Millions of Cubic Feet)[a]

Region[b]								
5	6	7	8	9	10	11	Total	Group
7,546	7,562	17,788	2,312	14,023	639	0	68,189	01–09
15	39	155	330	15	6	0	1,007	10–14
13,085	12,625	2,194	2,863	62,590	987	0	103,871	10–13
1,278	262	865	1,858	1,895	516	0	13,442	15–17
3,039	5,204	8,407	206	289	5,171	394	77,643	20–39
65,275	12,671	26,877	11,035	63,139	20,692	0	353,974	20
10	0	0	12	0	0	0	4,650	21
132	587	422	34	4,207	262	0	62,021	22
166	336	887	117	698	280	0	12,422	23
4,717	7,564	3,188	158	2,111	3,826	0	30,530	24
499	135	790	113	1,130	1,288	0	10,773	25
8,802	1,880	51,092	3,188	36,642	28,164	0	288,170	26
871	21,545	1,596	297	2,478	160	0	41,582	27
25,066	113,855	582,531	9,505	36,952	11,531	37,820	1,097,926	28
8,269	42,440	97,308	12,043	76,517	8,348	0	303,166	29
2,246	3,564	7,163	1,157	4,083	207	0	60,773	30
242	1,340	565	36	186	8	0	5,835	31
9,290	21,626	38,177	3,881	48,079	4,661	0	324,083	32
7,930	4,305	7,116	7,924	7,182	2,505	0	383,661	331–332
1,728	5,672	66,816	5,629	26,462	5,177	0	246,556	333–339
4,628	3,324	7,045	1,075	11,192	680	0	113,300	34
7,876	356	1,906	1,161	4,664	610	0	72,138	35
3,290	12,136	3,938	585	6,178	309	0	70,610	36
2,606	5,938	5,292	1,506	10,872	4,247	0	119,687	37
723	753	263	1,209	1,182	42	0	12,096	38
687	1,337	1,345	198	755	3,095	0	22,282	39
3,921	1,477	3,066	5,946	8,036	758	0	48,953	40–48
7,444	1,061	241	1,653	67,717	1,294	290	100,955	49
3,975	995	3,087	2,720	6,071	998	0	51,284	50–51
16,516	2,553	6,337	8,990	10,654	1,531	0	116,852	52–57, 59
4,409	1,617	5,941	4,127	27,793	2,674	0	118,299	58
1,552	93	1,656	1,345	2,871	197	0	29,901	60–64, 66
14,804	4,612	15,310	18,403	10,302	2,415	582	194,533	65
2,632	918	2,981	3,479	16,192	1,199	1,421	60,367	70
6,267	616	6,629	6,436	24,999	2,455	0	139,888	72–79
12,222	20,250	4,616	5,313	23,915	3,726	93	190,060	80
2,341	173	1,121	606	3,646	640	0	21,239	81, 83, 84
15,317	7,071	13,382	11,296	28,216	4,411	163	216,707	82
6,755	365	2,537	3,690	7,200	800	0	69,845	86, 88, 89
4,226	3,427	3,235	6,048	21,113	2,648	0	111,392	91–97
615	1	815	4,875	1,241	171	0	18,103	99
4,884	19,508	3,208	1,032	6,553	1,717	1,720	69,989	
70,440	203,544	1,677,016	25,148	126,784	52,881	47,940	3,088,842	
358,336	**555,337**	**2,684,904**	**175,539**	**816,824**	**183,926**	**90,423**	**8,547,596**	

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UNITED STATES GAS CONSUMPTION BY CLASS OF SERVICE, 1976–1987

(Millions of Cubic Feet)[a]

Year	Firm				Interruptible			Other	Total Excluding Field Use	Field Use	Total Consumption
	Residential	Commercial	Industrial	Electric Utilities	Commercial	Industrial	Electric Utilities				
1976	5,090,126	2,536,585	5,334,144	2,106,027	270,359	1,846,102	956,247	1,243,448	19,383,038	1,667,000	21,050,038
1977	4,909,373	2,463,206	5,019,752	2,017,471	222,735	1,651,440	998,913	1,167,724	18,450,614	1,694,000	20,144,614
1978	5,132,207	2,746,861	6,486,614	2,926,048	b	b	b	1,304,150	18,595,880	1,679,000	20,274,880
1979	5,144,003	2,770,674	6,973,202	3,274,967	b	b	b	1,233,424	19,396,270	1,530,000	20,926,270
1980	4,868,509	2,363,209	5,167,578	2,161,516	247,205	1,967,741	1,430,447	1,354,737	19,560,942	1,053,000	20,613,942
1981	4,654,258	2,240,388	5,026,609	2,142,754	249,760	2,001,333	1,632,357	1,350,019	19,297,478	953,000	20,250,478
1982	4,708,934	2,303,029	4,045,749	1,927,775	270,952	1,655,883	1,346,773	1,141,246	17,400,341	1,140,000	18,540,341
1983	4,429,538	2,179,757	3,763,706	1,721,185	258,656	1,903,910	1,294,767	1,180,978	16,732,497	1,009,000	17,741,497
1984	4,632,219	2,297,317	3,861,396	1,683,711	291,848	2,097,198	1,515,668	960,594	17,339,951	1,110,000	18,449,951
1985	4,559,026	2,255,642	3,845,440	1,616,996	302,322	2,154,120	1,567,307	1,071,271	17,372,124	1,051,000	18,423,124
1986	4,427,780	2,190,161	3,414,110	1,623,445	324,072	2,049,168	1,238,241	1,112,099	16,379,076	972,000	17,351,076
1987	4,407,617	2,193,420	3,204,744	1,334,910	357,314	2,792,118	1,587,153	991,156	16,868,432	972,000	17,840,432

a. Btu content equals 1,000 Btu per cubic foot.

b. In 1978 and 1979, firm and interruptible service were not measured individually; therefore all consumption is included under firm for each class of service.

If you have questions about data presented in *Gas Facts* please call the A.G.A. statistics department at either 703/841-8497 or 703/841-8504.

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